THE ELEPHANT-LORE OF THE HINDUS

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THE ELEPHANT-SPORT (MATANGA-LILA) OF NILAKANTHA

TRANSLATED FROM THE ORIGINAL SANSKRIT
WITH INTRODUCTION, NOTES, AND GLOSSARY

BY

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PREFACE

DESCRIPTION OF SOURCES*

1. THE MĀTAṄGA-LĪLĀ. This book is intended to serve as an introduction to the elephant-lore of the Hindus. It consists primarily of a translation of the "Elephant-Sport" (*Mātaṅga-līlā,* abbreviated *ML.;* see the Bibliography for bibliographical data on this and other works here mentioned) of Nīlakaṇṭha, with notes, introduction, and glossary. The *ML.* is without doubt the best available Sanskrit work on elephantology. It is a brief and succinct treatise in 263 stanzas, divided into twelve chapters of uneven length (ranging from only three stanzas up to fifty-one). Nothing is known of the Nīlakaṇṭha who is mentioned as its author, nor is there any evidence as to its date. According to the editor, Gaṇapati Śāstrī, the three manuscripts he used are about two hundred years old. But the work is probably very much older. For aught we know it may go back a thousand years, or even to a much earlier date. This, however, is purely conjectural; all we can say is that there is no positive trace of modernity in the work. Gaṇapati Śāstrī says that it is very well known in Kerala (Malabar), and on this ground guesses that its author may have been a native of this region; naturally, this is no very strong argument.

The author was a competent pandit; his Sanskrit is in the main good. His meters are elaborate and varied, including most of the better-known varieties of classi-

* In this Preface is furnished a technical description of the main sources used for this book, intended for Sanskritists. The nonspecialist is advised to omit it and read the Introduction instead.

cal *chandas;* only a few verses are composed in the commonplace *śloka.* In general they are well constructed; but there are a few faulty verses, such as xi, 43, where the first *pāda* ends in the middle of the word *asā-tmya.* The style is highly condensed, so much so that it is hard to understand at times. Sometimes it is almost *sūtra*-like in hinting at, rather than explaining, its subject matter. (See, e.g., viii, 16, with my note 73.) Not a few verses would have remained obscure, or at least doubtful, to me without the aid of parallel passages; and there remain a few in which, for lack of such parallels, I fear I may not have been entirely successful. It should be added that, as the editor says, his manuscripts were "not free from errors." I have made a dozen emendations in the text as edited, all of which I consider virtually certain; and I suspect textual corruptions in a number of other places.

On the technical vocabulary of the *ML.*, that is, the words used in it which are drawn from the special "lingo" of elephant trainers, see the first section of my Introduction.

2. THE HASTYĀYURVEDA. The only other Sanskrit work on elephants which has been published, so far as I know, is the *Hastyāyurveda* (abbreviated *HA.*). As the name implies, it is primarily a work on the medical treatment of elephants, and so quite different in scope and purpose from *ML.* It covers, however, some of the same ground. (A brief analysis of its contents is found in Zimmer, pp. 136 ff.) The parts of the body, for instance, are listed, in very much greater detail than in *ML.*, vi, 7 ff.; also the daily and seasonal care, feeding, etc., treated in *ML.*, chapter xi. The mythological part of *ML.*, i, is likewise contained, at much greater length, in *HA.* In large part, however, *HA.* is obviously a secondary adaptation to elephants of the theories of In-

dian (human) medicine. Even the subject of *must* (cf. *ML.*, ix, and my Introduction, sec. 7) is treated only perfunctorily (chiefly as depending on the various bodily "humors") in *HA.*, ii, 61. In my notes to the Translation I have referred to parallels in *HA.* so far as they have a bearing on the contents of *ML.*; such parallels are disappointingly few. *HA.* is a very diffuse and bulky work (717 pages); its verbosity is in striking contrast to the elegant brevity of *ML.* It is composed mainly in *śloka* meter, but with occasional prose passages of considerable length.

3. The Tanjore manuscript. I have had access in manuscript copy to one other Sanskrit work on elephantology, to which I refer as T. Unfortunately, the original manuscript is unique so far as known, and is both incomplete and very corrupt. In spite of this it has proved much more useful for my purpose than *HA.* In its complete form it probably covered the whole field of elephant-lore more fully than even *ML.*; the fragment we have treats of most of the contents of *ML.*, and of some other aspects of the subject. T seems to be a relatively late compilation, largely, if not wholly, consisting of excerpts from older works. It begins, for instance, by copying almost *verbatim* the whole of chapter i of *HA.*, Book I (corresponding in content to the first part of *ML.*, i). Like *HA.*, T is composed mainly in *śloka,* with some prose passages. But it also contains many stanzas in the more elaborate *kāvya* meters; and among these are found many (nearly one hundred) of the verses of *ML.*, scattered in many different places. It seems to me quite evident that *ML.* is the older text, and that T copied these verses either from it directly, or from some intermediate source. To be sure, T does not mention *ML.*, though it gives the names of some of the elephant

treatises which it used (see my note 39, on *ML.*, v, 2). But this proves nothing, for it does not mention *HA.* either, though it certainly copied at least one large section of it. The composite character of T is most clearly shown by its repetitiousness. Frequently it treats the same subject twice or even several times over. Usually these duplications are juxtaposed to each other (see, e.g., my note 39, just mentioned). Sometimes the same subject is treated *in extenso,* even repeating the same verses (perhaps quoted from different older works?), in widely separated parts of T; for instance, in the long passage containing *ML.*, xi, 10, 13, 18–23 (see my notes to these verses). One definite proof that *ML.* is older than T is found, as I think, in the quotation in T of *ML.*, iv, 1, a verse which surely was originally composed by the author of *ML.*, since it refers (with *prākpradeśa*) to an earlier part (chap. ii) of *ML.* itself. T is not only repetitious but very prolix; like *HA.*, its style suffers by comparison with that of *ML.*

4. OTHER SANSKRIT SOURCES. From some other Sanskrit works we get occasional gleanings of information on the science of elephants. The following list does not, of course, profess to approach completeness. The *Bṛhatsaṁhitā of Varāhamihira* contains (chap. lxvii) a sort of miniature *gaja-śāstra,* which has a bearing especially on the first part of *ML.*, vi (see my note 62). The *Śukranīti* (see *ibid.*) has some information of the same sort. A late Kāvya work, Somadeva's *Yaśastilaka,* contains (beginning on p. 482 of Vol. I in the Kāvyamālā edition) a long passage which has incorporated, in characteristically high-flown rhetoric, a great deal of the technical material of the *gaja-śāstra;* see my notes 17, 18, 20, 73, 83, 84, 89–95 to the Translation. Less important for the direct help they give to

the interpretation of *ML.*, but far more important as showing the great age of the tradition of the science of elephants in India, are the references to the subject in the *Kauṭilīya Arthaśāstra,* notably Book II, chapters xxxi and xxxii (also chap. ii, and stray references elsewhere, see the Index to Meyer's translation *s.v.* Elefant). The four "castes" of elephants are already mentioned there (II, xxxi, last verse). Brief references to the care and feeding of elephants, the catching of wild ones, etc., show that these matters were even then (not later than about 300 A.D., and perhaps much earlier) involved in a highly developed technique, and so establish the antiquity of our "science" in India. The text of *KA.* is too brief to make detailed comparisons fruitful; cf., however, my note 62 to *ML.*, vi, 3. The classification of elephants into castes is mentioned also in the first book of the *Rāmāyaṇa* (I, 6, 24).

5. MODERN WORKS ON THE ELEPHANT. The Bibliography lists only such of these as I have found, after a rather careful investigation, to be really useful for my purposes. The book of Sanderson, though now antiquated, has never been superseded, and is important for the light it throws on the methods and traditions of Indian elephant trainers and keepers today. Its information on this subject is unfortunately meager and unsystematic, but on some points it is practically all we have. It is sufficient to show the persistence of the traditions of the ancient *gaja-śāstra* down to the most modern times (see secs. 3–5 of my Introduction). It would be very desirable that someone acquainted with such modern lore, as Sanderson was, should give us a more complete account of the subject.

A more scientific treatment of the elephant is found in the book of Evans. It is written primarily from the medical standpoint, but contains also much informa-

tion of more general interest. I have found it very useful, not only for the anatomy, physiology, and hygiene of the elephant, but also as supplementing Sanderson on traditional practices and beliefs.

Of more strictly zoölogical authorities, the best is undoubtedly the comprehensive German work which goes under the name of Brehm. It is much more complete than any corresponding work in English, and makes all such English works useless, at least for my purposes.

I have examined a considerable number of other books and articles, both scientific and popular, dealing with the elephant. A few will be mentioned in my footnotes, as throwing light on special points. But I know of no others which have enough importance for the subject as a whole to deserve mention here. (This is not to deny the existence of valuable monographs on various parts of the elephant's anatomy, which are highly important for scientific biology, but happen not to concern us. The Hindus knew nothing of the internal anatomy of the elephant, to judge from the works known to me.) It is, indeed, surprising that so important and impressive a beast should have been so little studied. Hardly anything is really known of some of the most striking biological aspects of the subject, such as *must* (see my Introduction, sec. 7). I hope that some Indian zoölogist will be tempted by the subject before long, and will give us a really complete and scientific account of the greatest and most interesting of Indian animals.

6. Zimmer's German translation of *ML*. When I began this work, and, indeed, until the first draft of my translation was completed, no translation of *ML.* (or of any other Sanskrit work on elephants) existed in any language. Before preparing my final draft I came

into possession of Dr. Heinrich Zimmer's German translation of *ML.* I have, of course, examined it carefully, but am obliged to say that I have found it of very little use for my purpose. Certainly, it does not diminish the need for my book, even for scholars or others who can read German. And that for two reasons:

First, the translation is very imperfect. The text has been misinterpreted in many places; sometimes owing to ignorance of parallel passages which make the meaning clear, but often where it should have been clear without them. It would not be profitable to list these errors; a few particularly serious ones are mentioned in my notes; and, if anyone cared to take the trouble, he could find from a comparison of Zimmer's translation with mine the numerous cases in which I think Zimmer has gone astray. The consequences are sometimes very serious, as in ix, 10 and 11, which refer to different kinds of *must,* and ix, 12–18, which describe the seven stages of *must.* Zimmer failed to get any of this, and so ignored a rather important point in the technique of the *gaja-śāstra.*

Second, his approach to the subject is distinctly different from mine, so that the two books (aside from the translation proper) will not be found to duplicate each other. He includes some useful things not found in my book; among them I would mention the summary of the contents of *HA.* in the *Nachspiel* ("Appendix"), and the collection of European traditions and fancies relating to the elephant, beginning with classical times, in the *Vorspiel* (Dr. Zimmer, by the way, seems to have imbibed the Hindu love for playfully fanciful terminology). I must add that this same *Vorspiel* contains some statements on Zimmer's own authority which seem to me hardly less fantastic than the medieval traditions. To me, at any rate, it is more

than doubtful whether the Hindus ever thought of elephants in any definite, regular, or standard way as "clouds" (p. 21 and *passim*). The fact that a state elephant in *HA.*, iv, 22, happens to be called Megha, "Cloud," seems to be the strongest evidence adduced for this theory; it hardly proves all that Zimmer claims for it. I do not believe that the practitioners of the *gaja-śāstra*, or Indians generally, ever thought of elephants primarily, if at all, as magical bringers of rain. The myths of *ML.*, i, do not, by the way, support Zimmer (i, 11, says that the elephants were once winged and could fly where they liked, but surely this does not mean that they are identified with the famous mythical winged mountains; moreover, in that myth the clouds were the *wings*, not the possessors of the wings). That the elephants were commonly thought of as supernatural ("*keine irdischen Geschöpfe*," p. 14) surely does not follow from the myth of the miraculous origin of elephants, which Zimmer takes much too seriously. One might as well say that men are "*keine irdischen Geschöpfe*" in the Hindu view because they are fabled to be descended from Father Manu, who was a child of the Sun (Vivasvant)! The attitude of the *gaja-śāstra* toward elephants was, it seems to me, an eminently practical and prosaic one, not at all resembling the flights of imagination to which Dr. Zimmer gives free rein. It was essentially that of western jockeys to horses, as I shall set forth in my Introduction. The myths of *ML.*, i, may or may not be part of that jockey-like lore; it is quite conceivable that they were added by the pandits who dressed up the subject as a formal *śāstra*. But even the pandits were not so fantastic as Dr. Zimmer represents them.

7. PERSONAL ASSISTANCE. For advice and help on the scientific side of the subject I am indebted to Professor

R. G. Harrison and Dr. G. E. Hutchinson, of the Department of Biology of Yale University, and to Miss M. E. Curtis, a graduate student in that department.

F. E.

New Haven, Connecticut,
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WITH ABBREVIATIONS USED IN REFERRING TO EACH WORK

BREHM: Brehm's Tierleben, 4te Auflage. Säugetiere: Dritter Band, pp. 525 ff. (Rüsseltiere) (Leipzig und Wien, 1915).

EVANS: G. H. Evans, Elephants and Their Diseases (Rangoon, 1910). (Several—I do not know how many—earlier editions seem to have been published; the last previous one was in 1901, according to the Preface.)

HA.: Pālakāpyamuniviracito Hastyāyurvedaḥ. Ānandāśrama Sanskrit Series, No. 26 (Poona, 1894).

KA.: The Arthasastra of Kautilya, ed. R. Shama Sastri (Mysore, 1909). Trans., J. J. Meyer, Das altindische Buch vom Welt- und Staatsleben, das Arthaçāstra des Kauṭilya (Leipzig, 1926).

ML.: The Mâtangalîla [*sic*] of Nîlakaṇtha [*sic*], ed. T. Gaṇapati Śâstrî. "Trivandrum Sanskrit Series," No. X (Trivandrum, 1910). German translation: see below under Zimmer.

SANDERSON: G. P. Sanderson, Thirteen Years among the Wild Beasts of India (London, 1879).

ŚUKRANĪTI: ed. Oppert (Madras, 1882).

SY.: The Yaśastilaka of Somadeva Sûri, ed. Śivadatta and Paṇaśikar. Kāvyamālā 70 (Bombay, 1916, 2 vols.).

T: refers to a manuscript copy, in my possession, of MS No. 12295 of The Tanjore Maharaja Serfoji's Saraswathi Mahal Library, Tanjore. (A brief statement on the contents of this library, by P. P. S. Śāstri, in *Proceedings and Transactions of the Third*

Oriental Conference, Madras, 1924, pp. 713 ff. Madras, 1925. It was from p. 719 of this account that I learned of the existence of the MS.) The original is illustrated and contains a Marāṭhī translation besides the Sanskrit text. My copy (of the Sanskrit only) is on 518 pages. The copyist has indicated on the margins the end of each sheet of the original, and in referring to the work I have referred to these sheet numbers of the original so that reference may be made from my book to it. According to this numbering there are 252 folios in the original MS. The text, in my copy at least, is extremely corrupt as well as obviously fragmentary. The copy was compared with the original by an independent pandit (not the copyist), who gives written assurance of its fidelity. I specially requested that the original be followed even in its mistakes, and an effort was evidently made to do this. On the contents, see my Preface, 3. The original title is uncertain; nor are the chapter divisions clear. My copy is labeled on the outside *gajalakṣaṇavaidyaśāstra* (so, in stem form). At the end of each *adhyāya* that is marked at all, the colophon uniformly reads: *iti* (*śrī-*) *pālakāpye mahāpāṭhe vṛddhopadeśīye* (this word is once omitted) . . . (then follows the name of the *adhyāya*). The names of the *adhyāyas* which occur in the colophons are as follows: p. 10, *vanānucaritaṁ nāma prathamo 'dhyāyaḥ;*—p. 56, precisely these same words repeated!—p. 69, *annasamācāraḥ samāptaḥ;*—p. 70, *mahāsātmyaniścayaḥ;*—p. 73, *saṁgrahādhyāyaḥ;*—p. 80, *gajapraśaṅsādhyāyaḥ;*—p. 131, *upado* (! perhaps for *upanayano?*) *'dhyāyaḥ;*—p. 144, *aṣṭāṅgalakṣaṇādhyāyaḥ.* This is the last colphon in the MS, although it is only a little more than halfway through its contents. Since the MS is incomplete, there is no final colophon. There is a fragment of a

sort of Table of Contents, a list of the *adhyāyas* of the work, inserted, obviously out of place, in a passage dealing with diseases, on p. 70, into which subject the end of the list of *adhyāyas* trails off in such a way that it is impossible to be sure where it is supposed to end. The list is evidently as confused and corrupt as the divisions found in the MS. It reads: *vanānucarito 'dhyāyaḥ prathamas tatra saṁkhyayā, dvitīyo 'nnasamācāraḥ tṛtīyaḥ sātmyaniścayaḥ, caturthaḥ saṁgrahādhyāyaḥ śāstre 'smin suviniścitaḥ, gajapraśaṅsā ca tathā śiṣyopanayanaṁ tataḥ, rogāṇāṁ tu vibhaktiḥ syāt jvarotpattis tathaiva ca.* [This probably is as far as the list extends; the MS continues:] *jvarahetus tathaivānyo nisruto* (!) *'yaṁ mamānagha, tato mahārogayutaṁ sthānaṁ samyak pravartate.* The subject of diseases then continues, with a list of names of fevers.

VAR. BṚH. S.: Varāhamihira's Bṛhatsaṁhitā, ed. H. Kern, in Bibliotheca Indica (Calcutta, 1865).

ZIMMER: Heinrich Zimmer, Spiel um den Elefanten [Translation of *ML.*] (München und Berlin, 1929).

INTRODUCTION

1. The place of elephant-lore in Indian literature

SANSKRITISTS have long known of the existence of a technical "elephant-science" (*gaja-śāstra*) in ancient India, represented by several Sanskrit works which have been preserved to modern times.[1] With their passion for systematic, technical treatment of all subjects which interested them, it would have been strange if the Hindus had failed to pay this tribute to a beast which has always played such a prominent part in the lives of their rulers. For Indian kings made use of elephants from very early times, partly for ceremonial display, partly as one of the four recognized divisions of the army (the others being infantry, cavalry, and chariots). In the latter respect they may be said roughly to have corresponded to heavy artillery, before the days of gunpowder. It is well known that the Persians learned from the Indians to use them in war, and passed on this knowledge to the Hellenistic Greeks.

Like other subjects of importance for royal courts, the Hindus treated elephantology as a branch of the *Arthaśāstra*, the science of state-

[1] See, e.g., Winternitz, *Geschichte der indischen Literatur*, III, 533; Keith, *History of Sanskrit Literature*, p. 465. Keith by a slip gives the author of the *Mātaṅga-līlā* as Nārāyaṇa, instead of Nīlakaṇṭha; he also regards it as more modern than the *Hastyāyurveda*, for which there is no evidence and which I consider improbable.

craft or government. It goes without saying that the care and training of elephants must have been chiefly a function of state officials; few private individuals can have had the means to carry it on. Accordingly, we find, as the Preface has indicated, that the oldest Indian treatise on statecraft, the *Kauṭilīya Arthaśāstra,* which is variously dated from *ca.* 300 B.C. to *ca.* 300 A.D., includes (though only in brief compass) the oldest data we have on elephantology, chiefly in the form of a dissertation on the duties of the Overseer of Elephants, who was one of the recognized officials of a king. From then on no Hindu work on political science ignores the subject of elephants. In addition, independent works on the subject began to be composed, as also on the subject of horses, another branch of the *Arthaśāstra.*[2] All the known texts agree in attributing

[2] See the references quoted in note 1. It is a little curious that these are the only two animals thus honored. One might have expected that the bovine species, in view of its special sanctity in India, would have been paid a similar compliment. And, indeed, the *Kauṭilīya Arthaśāstra* contains a start toward a science of cattle, in Book II, chapter xix, dealing with the duties of the Overseer of Cattle, another royal functionary. Its brief statements are sufficient to prove that the care and breeding of cattle were a not unimportant part of the functions of the state. But so far as we know, this subject was never developed into an independent branch of knowledge, as in the case of elephants and horses. At least no works on it alone are known to have been composed. The reason doubtless lies in the unimportance of cattle for either war or the pompous display of royal courts. Both horses and elephants were valued for these reasons rather than for their economic usefulness or religious sanctity. The cow was both holy and of great practical value for human life; but these considerations were less important than "conspicuous waste" to the practitioners of the "science of

the founding of scientific elephantology to a mythical sage Pālakāpya, whose supernatural origin is told in the bizarre story recorded in the *Mātaṅga-līlā*, i, 17–18. They likewise agree in making him reveal this elephant-lore first to an apparently mythical Romapāda, King of Aṅga, whose name is not otherwise known. Indeed, the three elephant books known to me are all composed in the form of dialogues between these two personages.

References to elephants abound, of course, throughout all Indian literature. They furnish countless similes to the poets. A careful study of all such references would undoubtedly show a much more widespread knowledge of the technical "science of elephants" than has been generally supposed. There is good reason for believing that some acquaintance with this branch of learning was quite general among educated men. It follows that without some knowledge of it not a few passages in general Indian literature can hardly be understood. All Sanskritists will remember the familiar verse in the drama *Śakuntalā*[3] in which the general compares the king to a "mountain-ranging" elephant. But I venture to guess that few have ever thought that there was any special significance in the word "mountain-ranging" (*giricara*). I confess that I, at least, had always taken it simply as a vague, decorative epithet, which might have

statecraft," of which the study of elephants and horses formed a part.

[3] Act II, stanza 4.

been applied to any elephant at all. Now I realize that it refers instead to a particular type of elephant, the technical description of which in the elephant-science was quite well known to Kālidāsa, who clearly alludes to it.[4]

In contrast with the rather wide spread of this technical knowledge in ancient times, it has fallen into sad neglect more recently. Not only has it been practically ignored by western Indologists; even Indian scholars seem to have

[4] In the *Mātaṅga-līlā* this particular subject is mentioned only in passing; see i, 27–29, and my footnote 20 to i, 30. I have little doubt that Kālidāsa wrote *krūrapūrvaṁ* rather than *krūra-karmā* in a, and *kleśa-* (not *sveda-*) and *abhinnaṁ* in b. These are the readings of the Devanāgarī recension, and of some Bengali MSS, including the oldest (see Pischel *ad loc.*); I imagine that Pischel would not have rejected them in his edition if he had known the *gaja-śāstra* descriptions of the *giricara*. His body as a whole, or various parts of it, are called *kaṭhina* and *rūkṣa;* he is *sahiṣṇu, kleśakṣama,* and *uṣṇapracārābhyucita* (cf. b in Śak.), while his opposite, the "river-ranger," is *kṣut-tṛṭśramāṇām asaha* (all these expressions quoted from T's descriptions). Furthermore, the "mountain-ranger" is sturdy, brave, and warlike, and in general the highest type of elephant. Clearly it is he, and not any elephant at all, to whom the king is compared.

Another instance of the need of greater knowledge of this field for understanding general Indian literature is found in the Vikrama-carita JR, II, 2. Here the words *gambhīravedino* and *bhadrajātikā(ḥ)* mean, as applied to elephants, "of deep sensitivity" (i.e., not very sensitive to the goad), and "of the state (*bhadra*) caste"; see the appropriate words in my Glossary. My translation in *HOS*, 28, p. 12, is to be corrected accordingly.

One more instance, this time from Prakrit. In Jacobi's *Ausgewählte Erzählungen in Māhārāṣṭrī*, p. 5, lines 23 f., occur the terms *bhaddakariṇī* (Skt. *bhadra-kariṇī*) and *saṁkiṇṇagao* (Skt. *saṁkīrṇa-gaja*). What they mean is explained in my Glossary. Even so very great an Indologist as Jacobi—and it would be hard to name a greater—could not understand these terms, which are very commonplace in the "science of elephants."

lost touch with it. This neglect seems to date back some centuries at least, to judge from the fact that the best-known ancient Sanskrit lexicons (*kośa*), those exploited by Boehtlingk and Roth in their great dictionary, contain only fragments of the special vocabulary of this subject. The *Mātaṅga-līlā* is a short work, consisting of only 263 stanzas; yet it contains over 130 words—one for every two stanzas—not defined in the senses here found in any lexicon known to me, whether Hindu or western. Not all these words, to be sure, are strictly technical elephant words; but most of them may be called so, and the total number is certainly significant and symbolic of the general ignorance of the subject that has come to prevail.[5]

2. Theoretical and practical elements in the "science"

The question might be raised, to what extent does this ancient elephant-science represent actual experience with elephants, rather than theoretical or fanciful speculation? Did the writers of such works as the *Mātaṅga-līlā* really know elephants, or at least base their works on information got from trainers and managers of them; or were they closet scholars, indulging in idle theorizing about them? The works we have

[5] Besides the examples mentioned in the preceding note (not all previously unrecorded, however), I call attention to the names for elephants in various stages of life (chap. v), the parts of the elephant's body (vi, 7–13), and the stages in the development of *must* (ix, 12–18). Many, though not all, of these are omitted in our lexicons.

are composed in Sanskrit; the authors were evidently pandits, in some cases (notably that of the *Mātañga-līlā* itself) rather well trained in *belles-lettres*. There are some parts of the "science" which suggest rather the scholar than the elephant trainer. The mythic origin of elephants and of the sage Pālakāpya, told in our chapter i, were evidently part of the standard tradition, for they are repeated in the two other works known to me. They can hardly have been invented by men comparable with our jockeys, and at any rate they have no relation to real knowledge of elephants. One might recall also the typical pandit etymologies of the numerous Sanskrit words meaning "elephant";[6] the verse[7] which classifies elephants according to predominance of the three "strands" or "qualities"[8] of all material nature according to Indian philosophy; the three bodily "humors," wind, gall, and phlegm, which were evidently borrowed from the theory of human medicine.[9] All these savor somewhat of pandit theory.

To me, however, it seems that these points are exceptional and of minor importance. It is no doubt true that the pandits to whom we owe the extant treatises adorned the subject with some frills of their own. But in general it seems to me

6 *ML.*, i, 31–35. 7 viii, 14.

8 The three *guṇas*, viz., *sattva*, *rajas*, and *tamas*.

9 E.g., *ML.*, xi, 38–40. They are still more prominent in *HA.*, which, as I have said in the Preface, seems to me largely an adaptation of Hindu medical theory to elephants. In this respect *HA.* is not a typical *gaja-śāstra*, and differs from both *ML.* and T.

hardly doubtful that we are dealing with a genuine, ancient, and persistent tradition of elephant-lore, which grew up in and around the elephant stables of Indian potentates. This tradition has lasted down to the most modern times, as will presently appear. Our information on modern elephant-lore is unfortunately scanty, but nevertheless sufficient to show certain striking agreements with the statements of the ancient texts. This I consider one of the most convincing proofs of the genuineness of the latter. But it is confirmed by internal evidence. The external anatomy of the elephant was the subject of close observation and study, and the names given to the parts of the body, which are analyzed very minutely, can certainly not be wholly or even largely inventions of pandits.[10] Chapter v of the *Mātaṅga-līlā* gives special names to an elephant in each of the first ten years of his life, and then in each of the decades of life from the second to the fifth, inclusive. The majority of these names have no clear etymologies, and can scarcely have been invented by pandits. They smack of the jargon of a stable. Moreover, it is significant that after the fifth decade, when the elephant's powers begin to decline, no further names are given, although the text goes on to describe the characteristics of the animal in each

[10] *ML.*, vi, 7–13 contains a number of these names of parts of the body. A vastly larger number appears in *HA.*, iii, 29, where they are carefully classified and counted. Thus we are told that there are no less than 28 parts of the trunk with definite names, 33 of the face, etc. Very many of the names given have no evident Sanskrit etymologies, and can hardly be learned inventions.

decade up to and including the twelfth, which is supposed to be the full span of his life. Now, if these names were learned fictions, we should expect to find names provided for each of the "stages" of life described. Any pandit could have made up names for the sixth to the twelfth decades just as easily as for the earlier ones. That these later periods are not named is, I think, good evidence for the reliability of the names that are given. Obviously, the practical men who had to do with elephants were not greatly interested in them after they had passed the prime of life, and lumped them under such general designations as "old ones";[11] while for the earlier stages of life were developed numerous special names in the slang of the profession.

Other parts of the subject which seem clearly based on real acquaintance with elephants are the detailed description of *must* in its various stages,[12] the methods of catching wild elephants,[13] of feeding and tending them,[14] of guiding them with voice, hook, and stick,[15] etc. Even the chapters on favorable and unfavorable marks,[16] fanciful as they may seem to us, are pretty certainly based on genuine traditions among elephant trainers; at any rate similar beliefs exist among their like today, as the following section will show.

11 *Vṛddha, ML.*, v, 20.
12 *ML.*, ix, especially 12–18.
13 *ML.*, x, cf. the fifth section of this Introduction.
14 *ML.*, xi.
15 *ML.*, xii.
16 *ML.*, ii and iii.

3. Modern elephant-lore: good and bad points of elephants

The best available source of information on elephant-lore in modern India is the book of Sanderson, *Thirteen Years among the Wild Beasts of India.* Sanderson was for years in charge of the elephant-catching services of the State of Mysore in South India, and of the Government of Bengal. These are the two principal centers of the elephant industry in India proper (ignoring Burma and Ceylon). From intimate personal acquaintance he came to know the methods and beliefs of Indian catchers and trainers of elephants. What he says about them is highly important for our subject, though regrettably meager. His book was intended for a popular audience, and he doubtless could not have guessed how interesting to scholars might have been a more detailed account of this subject. Indeed, it appears that he was quite unaware of the existence in Sanskrit of works on elephantology which would have proved the antiquity of the traditions and beliefs he was dealing with.

On page 83 of Sanderson we read:

> The elephant is essentially a native's animal. Natives alone have fully studied his peculiarities and classified him into castes; his capture, training, and keeping are in native hands, as well as the trade; and the native standard of merit regulates the market. . . . The native requirements in an elephant differ essentially from ours. They prize the animal chiefly as an adjunct to court display and temple processions. Consequently perfection of form and carriage are paramount from

their point of view. As we require it for economic purposes,[17] strength, docility, and courage are first considerations with us. . . . The native standard of a good elephant does, however, comprise all essentials to excellence for any purpose; and putting aside minor and whimsical requirements, consisting in certain lucky or unlucky marks,[18] correctly distinguishes the most desirable animals. In fancy beasts, a too short or too long tail, a black mark on the tongue, or a less number of nails than eighteen (some elephants have but sixteen; the usual number is five on each fore foot, and four on each hind), are defects sufficient to disqualify the best animals.

Here we have a reference to what is evidently the equivalent of the beliefs set forth in the second and third chapters of the *Mātañga-līlā*, on favorable and unfavorable marks. With the last point mentioned is to be compared ii, 3, 9, and 17, from which we learn that the proper number of toenails is eighteen or twenty, and that it is a bad sign if an elephant has "too many or too few."

Evans in his book on *Elephants and Their Diseases* also mentions[19] the good and bad points of elephants, chiefly on the basis of present-day beliefs in Burma. Of interest to us is the reference to "light-colored spots and blotches on the head and trunk" which are "pinkish in

[17] In which Sanderson includes hunting, as well as lumber work, etc.

[18] How one wishes that the author had told us more of these "whimsical requirements," which would have paralleled, more or less closely, those of *ML.*, ii and iii!

[19] Pp. 8–10.

color," and are regarded as favorable marks. Sanderson[20] also says that in India "if the face, base of the trunk, and ears, be blotched with cream-colored markings, the animal's value is enhanced thereby." It seems to be universally agreed among European observers that really "white" elephants do not exist, in spite of the traditional value attached to them, especially in Siam. Occasionally, but rarely, they are of a rather light brown color, or even "somewhat of a dirty cream-color";[21] it is such animals that are called "white" by the Siamese. The *Mātañga-līlā*[22] speaks of elephants as of four colors: tawny, yellow, black, and white. But this is mere theory, for the same verse adds that only black ones exist "on earth"; the other three are "in the heavenly world." Elsewhere,[23] however, mention is made of light-colored spots on the body, particularly on the face and trunk, as auspicious signs, exactly as in modern times.

4. *Modern elephant-lore: "castes"*

Sanderson has even more interesting things to tell us on the "castes" of elephants.[24]

Elephants are divided by natives into three castes or breeds, distinguished by their physical conformation; these are termed in Bengal *Koomeriah, Dwásala,* and *Meerga,* which terms may be considered to signify thorough-bred, half-bred, and third-rates. The term

[20] P. 84.
[21] Sanderson, p. 85.
[22] viii, 15.
[23] ii, 4, 7, 9.
[24] Pp. 83 ff.

Koomeriah signifies royal or princely.[25] *Meerga* is probably a corruption of the Sanskrit *mriga,* a deer; the light build and length of leg of this class of elephants suggest the comparison. *Dwásala* in Persian means two things or originals,[26] and in reference to the elephant, signifies the blending of the first and third castes into the intermediate one.

In the *Mātañga-līlā*[27] reference is made to three castes of elephants, "state" (literally "fine, auspicious, noble," *bhadra*), "slow" (*manda*; the word may also mean "weak"), and "deer" (*mṛga*). There is, however, a fourth caste, mentioned elsewhere,[28] "mixed" (*saṁkīrṇa;* other texts call it *miśra,* which has the same meaning), which has no definite characteristics but a mixture of those of the other three castes. All four are well known throughout Sanskrit literature, beginning with the *Kauṭilīya Arthaśāstra,*[29] the date of which is variously placed from the fourth century B.C. to *ca.* 300 A.D.

It is obvious that the third caste, *mṛga,* is the same as the modern *meerga.* Sanderson recognized the Sanskrit word, though he did not know

25 It is evidently a corrupt vernacular derivative of Sanskrit *kumāra,* "youth, prince."

26 Professor A. V. Williams Jackson, the distinguished Iranist, writes me on this word: "The first element must be Persian *dū, du* ['two']. I fancy that the second may be connected with Arabic-Persian *aṣl,* 'root, stock, origin,' but am not sure." I have little doubt of the correctness of Professor Jackson's suggestion, advanced with proper scholarly caution. Of course it is a vernacular form of the word.

27 xii, 7.

28 i, 26, 30.

29 ii, 31, end.

that it was applied to this class of elephants in Sanskrit, still less that this usage was at least fifteen hundred years old. There is no doubt, furthermore, that Sanderson gives us the correct explanation of the application of this word to elephants. It does not mean a "wild" elephant,[80] which makes no sense here; this class of elephants is no more "wild," however that word be interpreted, than the others. It is quite simply a "deer" elephant, that is, one that resembles a deer, namely, in size, length of leg, and comparative swiftness. The *meerga* is

> leggy, lank, and weedy . . . his trunk is thin . . . his neck long and lean; he falls off behind; and his hide is thin. His head is small . . . his eye piggish and restless. His whole appearance is unthrifty, and no feeding or care makes him look fat. The *Meerga,* however, has his uses; from his length of leg and lightness he is generally speedy: the heavier *Koomeriah* is usually slow and stately. . . . The *Meerga's* ill-favored look frequently bespeaks the nervousness and meanness of his temperament. His want of courage, and, consequently, apprehensive nature, often lead to his being dangerous through his fears.[31]

With this is to be compared the description of this caste, the smallest and least regarded of the three primary castes, in the *Mātañga-līlā*.[32]

No less certain is it that Sanderson's *koomeriah* is the same as the "state" (*bhadra*) caste of Sanskrit elephantology. It is the largest

[80] As translated by Meyer (*Arthaçāstra,* p. 219), and, with less excuse, by Zimmer, *Spiel um den Elefanten, passim.*

[31] Sanderson, pp. 84 f.

[32] i, 29; cf. also vi, 3.

and finest type of elephant. Its description[33] in our text may be compared with the following quotation from Sanderson:[34]

The points of the *Koomeriah* are: Barrel deep, and of great girth; legs short (especially the hind ones) and colossal . . . back straight and flat, but sloping from shoulder to tail . . . head and chest massive; neck thick and short; trunk broad at the base and proportionately heavy throughout; bump between the eyes[35] prominent; cheeks full; the eye full, bright, and kindly; hind-quarters square and plump; the skin rumpled, thick, inclining to folds at the root of the tail, and soft. . . . The tail must be long, but not touch the ground, and be well-feathered. . . .

Though gentleness and submissiveness are characteristics of all elephants, the *Koomeriah* possesses these qualities, and equanimity, urbanity, and courage in a high degree.[36]

Some confusion in the tradition seems to have occurred in the matter of the other caste, which Sanderson calls *Dwásala*. It comes between the other two, and includes all animals which are neither *Koomeriah* nor *Meerga*. The Sanskrit texts name the second caste "slow" (*manda*), or sometimes *mandra*.[37] It is intermediate between the "state" and "deer" castes in size,[38]

33 i, 27; vi, 3.

34 P. 84.

35 Probably the *avaskāra;* see my Glossary *s.v.*

36 Sanderson, p. 85.

37 This variant does not occur in *ML.*, but is not infrequent elsewhere. It might mean "pleasant, agreeable"; but it is most commonly used of sounds, denoting a low, gentle note. It is hardly a plausible epithet of elephants, and I think it is a mere corruption of *manda.*

38 *ML.*, vi, 3. For the full description of this caste see *ML.*, i, 28.

but nevertheless is regarded as a pronounced and definite type of its own, not a mere catch-bag of elephants which cannot otherwise be classified. Our texts recognize, however, a fourth "caste," called "mixed," which, like Sanderson's *Dwásala,* has no definite characteristics of its own, but a mixture of those of the other, supposedly "pure" castes.[39] What has happened seems to be this, that the old intermediate ("slow") and "mixed" castes have become confused; both are represented by the modern *Dwásala.*

According to Sanderson[40] "the points of these breeds (if they may be so called) do not amount to permanent, or even hereditary, variation." It appears, then, that the so-called "castes" are merely accidental sports, not breeds in the proper sense. Certainly, elephants have never been bred by men; not, as used to be fabled, because they will not breed in captivity, but because it is unprofitable to allow them to. An elephant has no economic or other value to men until he is at least fifteen years old, and the cost of keeping and feeding young elephants until they reached this age would be prohibitive. It is much cheaper to catch wild ones.[41] The pronounced types which are recognized as "castes" occur only sporadically. "Whole herds frequently consist of *Dwásalas,* but never of *Koo-*

39 *ML.*, i, 30. 40 P. 84.

41 "Owners . . . have been known to offer to give away their calves owing to the expense attending their keep and the remoteness of the prospect of some return upon the outlay. The offer has for similar reasons frequently been refused." Evans, p. 92.

meriahs or *Meergas* alone; these I have found occur respectively in the proportion of from ten to fifteen per cent amongst ordinary elephants. . . . All ordinary elephants (about seventy per cent) are *Dwásalas.*"[42] In ancient times it appears that three, rather than two, definite types or "castes" were recognized; but it may be presumed that they were equally sporadic in appearance, and that "all ordinary elephants" were "mixed" (*saṁkīrṇa*). Our texts contain nothing inconsistent with this supposition; they do not suggest that the "castes" were hereditary breeds.

5. *Modern elephant-lore: catching of elephants*

The most striking further agreement between the ancient elephant-lore and that of modern India as reported by Sanderson is the technique of catching wild elephants. This is described in the *Mātañga-līlā* in chapter x, and by Sanderson in his seventh chapter, pages 70–77. The correspondences are close on the whole, at times amazingly so.

The Sanskrit text knows five methods, which it arranges in descending order of desirability. The first and best is to catch a whole herd by an elaborate trap pen. The second is to lure individual male elephants away from the herd by tame females, and catch them. The third is by chasing them in the open and catching them with nooses, one end of which is fastened to the tame

[42] Sanderson, p. 84.

elephant on which the hunters ride. The fourth is by masked nooses, the ends of which are held by men in hiding; the nooses are concealed with bark, twigs, and dirt, after a shallow hole has been dug so that the top of the ground may be approximately level with its surroundings; food is placed on top to lure the elephants into the trap. The fifth is by deep pitfalls covered over so as to be unnoticeable, and baited with food on the surface. Our text says[43] that the last two methods, and especially the fifth, are objectionable and not to be recommended, because dangerous to the elephants.

The first three and the fifth of these methods are also known to Sanderson, and are practiced in much the same way. The fourth was apparently not known to him. The pitfall is reprehended by Sanderson just as by the Sanskrit text; he calls it "a most barbarous method."[44] It was formerly much used in Mysore, but "an immense proportion [of the animals caught] died from the effects of this violent mode of capture, and those that lived were only small ones, whose weight did not lead to such serious effects as in full-grown elephants." Sometimes elephants were killed on the spot by the fall; others died of starvation before their indolent captors got around to look for them; many others were so seriously hurt that they died later. "Since the Maharajah's death the pit system has happily

[43] x, 1.

[44] P. 75. The following quotations are from this and the next page.

been given up. The atrocious cruelties to which elephants were subjected by it are too horrible to think of.'' The pit was about fifteen feet deep in Mysore, which is much deeper, and consequently more dangerous to elephants, than according to the *Mātaṅga-līlā,* which makes it only four *hastas* (about six feet) deep. The other dimensions, according to our text,[45] are two *hastas* by five (*ca.* three feet by seven and a half). In a hole of such narrow dimensions a normal-sized elephant could not possibly fall to the very bottom. He might, to be sure, be injured by the fall, in view of his great weight; but if not disabled, one would think that he would be likely to get out in no very long time. We may therefore probably infer that, contrary to the Mysore custom described by Sanderson, the pits were watched until elephants fell into them. This seems indeed to be implied by the description given in the *Mātaṅga-līlā.*

The favorite method of catching elephants, in ancient as in modern times, is by the trap pen, called *vārī* in Sanskrit, *khedda*(*h*) in the modern vernaculars. A rather detailed description is given in the *Mātaṅga-līlā,* x, 2–6; but owing to the complicated nature of the process, and the severe compression of the Sanskrit text, it is not entirely lucid. I suspect, furthermore, that there is at least one textual corruption in the first line of stanza 2, which seems to describe the pen or pound as a *kos* (about a mile and a half) in di-

[45] x, 14, which describes this method of capture.

ameter. This figure certainly cannot refer to the pen proper, the *vārī* or modern *kheddah,* but rather to the "surround." I quote selections from Sanderson's long description[46] which helps to make clear the meaning of our text:

The scouts having found a herd . . . the hunters are halted within a mile, when half of them file off to the right and half to the left. Along these diverging lines, which are to meet beyond the herd and enclose it, two men are left at every fifty yards or so as a guard. The surround when completed is often six or eight miles in circumference [which would be two *kos* or more in diameter]. . . . [Guards see to it that the enclosed herd does not escape from this "surround" until the pen proper has been built.] The construction of the *kheddah,* inside the large circle, is commenced as soon as the elephants are surrounded. . . . This is formed of stout uprights about twelve feet in height, arranged in a circle of from twenty to fifty yards in diameter. . . . An entrance of four yards in width is left for the ingress of the herd. . . . To guide the elephants to the gate, two lines of strong palisades are run out from it to perhaps fifty yards across at their commencement, which may be a hundred yards or so from the gate. When the herd is once within this funnel-shaped approach, it is easily driven forward by the beaters closing in from behind. The gate is made very strong, and is studded with iron spikes on the inside. It is slung by rope-hinges to a cross-beam, and is dropped by the rope being cut as soon as the elephants have entered. Inside, around the foot of the palisade, a ditch is generally dug . . . to deter the elephants from trying the stockade. . . . [When all is ready] a smaller interior

46 Pp. 71 ff.

circle is formed by commencing at the ends of the guiding wings of the *kheddah* and posting the men until the elephants are again surrounded. They are then driven forward towards the *kheddah,* and when near it the men close in from all sides with shouts and shots, and the elephants generally enter the trap without hesitation. . . . After the elephants have been impounded . . . the tame elephants are admitted with their mahouts upon the neck of each, and a rope-tier seated behind.

The wild elephants are then separated one by one from the herd and tied up, then led out and picketed "until they have been sufficiently subjugated to be removed."

One who compares this with the description in the *Mātañga-līlā* will, I think, have no doubt that a continuous tradition led from one to the other, in spite of divergences in detail,[47] some of which may be due to faults in the Sanskrit text, or to local variations in modern India. Notice particularly the similarities in the matter of the lane leading to the pen, and the rope-slung gate, closed by cutting the rope.

The second method of catching, called "cow-seduction" in Sanskrit, is described succinctly in a single verse.[48] "Five or six reliable females" are driven to a herd by drivers who conceal themselves under covers, and are used as decoys in detaching from the herd a corresponding number of males, who are then caught one by one and tied up. Sanderson[49] differs in applying

[47] See my note 96 on x, 2. [48] x, 7.
[49] Pp. 73 f.

this method to solitary males. Otherwise the general correspondence is very close, allowance being made for the extreme brevity of the Sanskrit. Sanderson speaks of using "four or five steady females, ridden by their mahouts, who partly conceal themselves with a dark-colored blanket as they lie on their elephants' necks." The elephant cows "graze as if they were wild ones, and . . . gradually approach the male if he does not himself take the initiative." The *Mātaṅga-līlā* adds three verses which prescribe ointments or solutions to be applied to the hind parts of the cow elephant, to make her more seductive to the male.

The third method, that of pursuit in the open with the object of tiring out the wild elephants, and then catching them (with nooses, as Sanderson says; the Sanskrit is too brief to make this clear), is so briefly described in the *Mātaṅga-līlā*[50] that no comparison of details is possible. Sanderson had never seen a hunt of this sort, but describes it[51] from information given him by employees who were adepts in it. It is "the most spirited and exciting, though by no means advantageous, manner of hunting the wild elephant. . . . It is far from an economic method, as the wear and tear of the tame elephants engaged is very great, nor can full-sized wild ones be captured by it." Three or four fast elephants are equipped each with three riders, one of whom wields a rope, one end of which is girthed

[50] x, 11. [51] Pp. 76 f.

around the elephant's body, while the other end is formed into a noose. After they have chased and worn down the wild elephants the noose is thrown around the neck of one of them; the tame one is then checked and other nooses are used in securing the captive. But the wild elephant may be choked by the lasso, and fatal accidents to the tame ones and their riders are not uncommon.

6. *Contents of the* Mātañga-līlā

We have shown that the elephant-lore of our text is based on a genuine traditional knowledge which grew up among those whose business it was to deal with elephants, and that this tradition has persisted to modern times. Let us now briefly summarize the contents of the text itself.

The first of the twelve chapters is introductory. It tells how King Romapāda met the sage Pālakāpya, who expounded to him the science of elephants. There follows the mythic origin of elephants; the story of how they were banished to earth and deprived of their powers of supernatural locomotion; the marvelous birth of Pālakāpya himself; a description of the various "castes" of elephants, already referred to; etymological explanations of the various Sanskrit words for "elephant"; and explanations of various real or alleged physical peculiarities of the beast.

Chapter ii deals with favorable marks of elephants, and chapter iii with unfavorable ones. We have already seen that Sanderson and

Evans allude to the modern belief in marks of both kinds, though they give few details. Toward the end of chapter ii come several verses on the sounds made by elephants. The last verse of chapter iii warns against taking captive a female elephant that is with young; she brings bad luck.

Chapter iv deals with marks of longevity, and incidentally informs us that the full length of life of the "state" caste, the best type of elephant, is twelve decades or a hundred and twenty years, while the "slow" and "deer" castes may be expected to live only eight and four decades, respectively. Compare Sanderson's statement: "The general opinion of experienced natives is that it attains 120 years in exceptional cases, but more generally to about 80 years."[52] The agreement of this with our text is striking. Sanderson's own opinion is that the elephant "attains at least to 150 years."

Chapter v deals with the stages of life, first stating that an elephant has no value for man up to the twelfth year, is of middling value from then until the twenty-fourth, and of the highest value from then until the sixtieth.[53] There follow, in twenty-one verses, descriptions of an elephant in each of the first ten years of his life, and in each of the succeeding decades, from the second to the twelfth. A special name is given to him in each of these periods up to and including

[52] P. 56.

[53] For *KA.'s* different estimate of the relative values of various ages, see my note 102 to Translation, xi, 13.

the fifth decade, after which no names are given.[54]

Chapter vi is entitled "Determination of Measurements." It gives first the standard measurements of each of the three main castes; these agree quite well with figures given in other ancient sources and with the data of modern authorities.[55] Technically, the length of an elephant is defined as the distance measured from the eye to the root of the tail; his height, the distance from the top of the shoulder to the ground, or as vi, 1 puts it, to the toenail. This definition of height is recognized in modern times, too.[56] There follows, in verses 7–13, a partial list of parts of the elephant's body, to which reference has been made above.[57] The interpretation of many of these is troublesome. I hope I have succeeded in identifying most of the parts of the face and trunk, but the hinder parts are especially difficult. What can be said on each part will be found in my Glossary.

Chapter vii is the shortest in the work, consisting of only three stanzas. It deals with the price of elephants, but gives no information of interest or value.

Chapter viii is on "marks of character." The major part of it consists of rather fantastic descriptions of the "character" of elephants, based on physical and mental characteristics, and classified as resembling supernatural beings of various sorts—gods, demons, *gandharvas* or

[54] See above, pp. 7, 8.
[55] See my note 62 to vi, 3.
[56] Evans, p. 5.
[57] P. 7.

heavenly musicians, *yakṣas* or sprites, ogres, goblins, and serpents (which are semidivine in Hindu belief)—or men of the four traditional castes, brahmans, *kṣatriyas*, *vaiśyas*, and *śūdras*. To this is appended, in stanzas 17–25, a classification of elephants according to their varying degrees of sensitivity to stimuli (that is, to the goad or stick). Seven different types are here recognized. But several of them seem to be fanciful. It appears that only three were in common use: shallow sensitivity, attributed to beasts that are very touchy; deep sensitivity, to those who respond only to violent goading; and sensitivity according to meaning, found in the best elephants (and therefore characteristic of the "state" caste, i, 27), who respond just as they should, being neither over- nor under-sensitive.

Chapter ix deals with the state of *must*, a very interesting and important subject to which I shall devote a separate section below. Chapter x is on the methods of catching elephants, and has been fully described in the preceding section of this Introduction.

Chapter xi is the longest in the whole work, containing fifty-one stanzas. It is entitled "On the keeping of elephants and their daily and seasonal regimen." It begins by reminding us that freedom is the elephant's natural state, and that captivity is bad for him. When newly caught he is miserable, pines away, and is apt to die. Therefore, he must be tended with great care, especially in the early days of captivity. He is

very fond of water; he should be washed frequently and given opportunity to plunge in streams. A daily schedule to be observed by elephant tenders is laid down in verse 8. Many verses are devoted to his food. It includes grains, especially rice, both raw and cooked, but also wheat and barley, as well as beans and other vegetables; grass and other jungle fodder in abundance; ghee (clarified butter), jaggery (a coarse kind of sugar), salt, various spices, sweetened drinks, meat broth and even meat itself,[58] and occasionally strong liquor.[59] Careful figures are given[60] of the amounts to be administered of each of the principal articles of diet; the amount is made proportional to the animal's size. Medicines are also prescribed, especially vermifuge; "most commonly diseases of elephants are caused by worms."[61] But mention is also made of the elephant fever known by the special name of *pākala;* it is lightly dismissed with the statement that its symptoms and treatment are the same as with human fever.[62] Following the usual Hindu medical theory, diseases are attributed to disturbance of the equilibrium of the three bodily humors, wind, gall, and

[58] This is confirmed by *HA.*, e.g., iv, 15, 30, and 87. Meat in the diet of elephants is also mentioned in *KA.*, ii, 31; Meyer, p. 218, unable to believe that the text really means "meat" by the Sanskrit word *māṅsa,* renders "Fruchtfleisch (*māṅsa,* Fleisch?)."

[59] On the practice of giving animals (especially elephants) intoxicating drink see Bloomfield, *JAOS*, xl, 336 ff. It was quite common, especially with war elephants, to increase their courage.

[60] Vss. 16–17.

[61] Vs. 48.

[62] Vs. 50.

phlegm; the symptoms of disturbance affecting each of the three are severally described,[63] and the next verse gives the characteristics of the healthy elephant whose humors are "balanced." Not a few of the plants and plant products used in the diet and medicinal regimen of the elephant are obscure. It would be interesting to compare them with the abundant data given in Evans' book, but this would require more knowledge of Indian botany and materia medica than I possess.

An interesting section of this same eleventh chapter is the group of verses describing the seasonal differences to be observed in the care of elephants in each of the six seasons of the Indian year.[64] We learn here, for instance, that in cold weather they were kept in closed and heated stalls, covered with blankets, and given spicy foods and strong drink to keep them warm; that heavy work was avoided in hot weather, care being taken to keep their stalls cool and to afford plenty of water for bathing; and that in the rainy season smoke was provided in their stalls to rid them of flies and gnats.

The twelfth and last chapter is somewhat miscellaneous, but deals primarily with the character and activities of elephant managers, trainers, and drivers. It first describes the qualities which are desirable in candidates for these

63 Vss. 38–40.

64 Vss. 32–37. There are parallel passages in *HA.*; see my notes to the verses in question.

posts. Then follow, in rather minute and interesting detail, descriptions of the technique of guiding elephants: first by words alone (vss. 8–10), then by prodding them with the feet (11–12), and then—after a brief listing of the various "gaits" of an elephant (13), and three verses (14–16) on the ways of sitting on his back, of which there are no less than eight, three in front and five behind—a dissertation on the hook or goad. There are four kinds of hooks (vs. 18); six parts of the beast's body to which they may be applied (19); the manner of applying tells the trained elephant exactly the direction in which he is expected to move (20); there are six degrees of severity of the goading, from "barely touching" to the most violent thrusts after brandishing the hook (21). Three verses (22–24) prescribe ointments or solutions which, when rubbed on the hook, make it more effective in controlling an elephant. A stick may also be used; it is to be applied to five spots on the sides and rear of the elephant, which indicates that it was not used by the driver but by a rider sitting behind.[65] There are eight ways of mounting an elephant, and ten of dismounting (vss. 26–27). After assuring us that King Romapāda was delighted with the instruction in elephant-lore which he received from Pālakāpya, and giving fantastic etymologies of both their names, the work closes with a modest expression of the au-

[65] Vs. 25. Cf. Sanderson, pp. 76 f., where we hear of a "spiked mallet" used in this way to make an elephant go as fast as possible, in chasing wild elephants.

thor's hope that his humble effort will be fruitfully criticized by competent experts.

7. *The* must *of elephants*

A special section may properly be devoted to the strange and interesting pathological condition known as *must* (or *musth, mast*) in elephants. It is the subject of the ninth chapter of the *Mātañga-līlā*. Evans[66] describes it thus:

Male elephants, and very rarely females, on obtaining maturity, are subject to peculiar paroxysms of excitement, which seem to have some connection with the sexual functions, to which the name *musth* is applied by the natives of India and *mon-kyathi* by the Burmans. It is probably analogous to the *rut* in deer. It occurs in both wild and tame animals, and in the latter is more often met with in highly fed, pampered beasts that receive insufficient exercise. It occurs most frequently in the cold season and may perhaps be due to ungratified sexual desire in some cases, but not always so, since the society of a female by no means always quells or even pacifies animals in *musth*. At other times an animal in *musth* undoubtedly seeks a mate of the opposite sex. *Musth* occurs frequently in some beasts, seldom in others, so that the intervals are variable in different animals and in the same manner so are the symptoms. More or less excitement is usual, but on the other hand some elephants become dull and morose. The behavior changes, shown by disobedience to commands, trying to break away, or showing violence to man or destructive tendencies and being altogether out of sorts. The temples become puffy, due to swelling of the temporal glands which lie beneath the

66 Pp. 175 f.

skin and at this stage [it] is called by many mahouts *kherr musth;*[67] later an oily discharge exudes from the hole or duct over the gland. . . . When *musth* is established there is often a partial retention of urine, the water dribbling away. As soon, however, as the urine is passed freely the natives consider the dangerous stage over, irrespective of the amount of discharge from the glands.

The attack may last a few days, weeks, or months. . . . Cowardly mahouts are said at a certain stage of the attack to administer some species of pumpkin which has the effect of abating the excitement, etc. The effect of such treatment, however, is said to be very prejudicial to the health of the animal. Mr. Petley informs me that once *musth* is established it ought to come on every year although in no particular month, and he has known elephants in which owing to overwork or ill-health the usual occurrence of *musth* has failed, to become useless for work. The only remedy is to set them free for months until *musth* again comes on, after which care should be taken to see such animals are treated with extra care.[68]

Sanderson's account[69] is briefer, but confirms Evans on the main points. He says that *must* occurs very rarely in females, and never, he be-

67 This is clearly the "temple-filled" or first stage of *must* of *ML.*, ix, 12. The "dribbling" of urine mentioned by Evans in the following sentence might, perhaps, be connected with the "*must*-fluid" discharged "drop by drop" from the penis in the third stage, *ML.*, ix, 14; but this seems not very likely, since it would be strange if "*must*-fluid" were stretched to include urine. Cf., however, below, pp. 34–36.

68 On the last-mentioned subject cf. *ML.*, ix, 19, and my note 95a to that verse.

69 Pp. 59 f.

lieves, in tame ones;[70] he had seen it twice in newly caught females "in the prime of life, and in very full condition." He also records the tradition that *must* is "supposed to be of a sexual nature," but is even more doubtful of this than Evans. He describes a scene which he himself had witnessed; an elephant, in whom *must* was just beginning, broke away from his mahout, attacked a female who was picketed near by, and "had his tusks not been cut, he would undoubtedly have killed her on the spot." Evans advises tethering a female near the male in *must*, after he has been fettered; but "should this enrage him she must be removed."[71]

[70] But J. C. C. Wilson in *Journal of the Bombay Natural History Society*, XXVIII (1922), 1128–1129, says that a female in "season" often has a slight discharge from the temporal glands, similar to that which the male shows when in *must*, but much less in extent. See the following note.

[71] P. 176. Gordon Hundley in *Journ. Bomb. Nat. Hist. Soc.*, XXVIII (1922), 537–538, likewise believes that *must* has little or nothing to do with sex, and says that in all cases of sexual intercourse between elephants observed by him, the male never showed signs of *must*. On the other hand, in a reply to Hundley, published *ibid.*, pp. 1128–1129, J. C. C. Wilson expresses the belief that *must* is connected with sex, and asserts that he has known cases in which a male elephant in *must* was pacified by being allowed intercourse with a female. He declares that when an elephant in *must* seems to be averse to female society and even attacks a cow elephant, this is because she is not in "season" and therefore will not permit intercourse. If a cow in "season" can be provided, he says, intercourse will always take place and the excitement of *must* will be abated. But Wilson does not say how he can tell that a she-elephant is in "season." Hundley, *loc. cit.*, says that she never shows any visible signs of this condition. This is confirmed by Evans, p. 94, and Sanderson, p. 94, who agree that the female shows receptivity to the male only by uttering "certain peculiar sounds" and courting his society. Even these signs are not universal, for

The Sanskrit word for this condition is *mada*, which means primarily and commonly "intoxication, excitement, rapture." It is sometimes[72] used of the passionate excitement of love, but not very often, so far as I know. It seems at least doubtful whether this word was applied to the state known as *must* in elephants because of a belief that it was a sort of sexual excitement. Certainly the Sanskrit works on elephantology do not express such a belief anywhere, so far as I have observed. The *Mātañga-līlā* not only conspicuously lacks any such statement, but expressly gives a different explanation of the origin of *must*. It ascribes it to "excess of joy," arising out of good health, vigor, and a happy life, attended by "well-balanced humors" of the body.[73] All this suggests that the text understands *mada* as meaning "joy, rapture, exhila-

Evans, p. 331, records a case observed, in which a she-elephant permitted sexual intercourse with two bulls in close succession, yet "remained perfectly quiet the whole time"; "she did not appear to be on heat, nor did she utter any sound, and as far as could be seen did not court their [the males'] attentions in any way." It would appear that so far as a human observer can tell, there is no way of recognizing "heat" in a female elephant except the pragmatic test, that she will admit the male. Under these circumstances it seems questionable whether it is proper to attribute a special sexual "season" to the female elephant at all, although Sanderson and Evans agree in doing so, while denying it to the male. Certainly the dictum of Wilson, that the *must*-elephant is never averse to sexual intercourse if the cow is in "season," seems to be a dogmatic assertion incapable of proof. The brief account of *must* in Brehm, p. 557, is based on Sanderson. It follows the common tradition in regarding it as sexual, but adduces no evidence.

72 E.g., Boehtlingk, *Indische Sprüche*, 6559.

73 ix, 1–4, esp. 4.

ration," and so "the state of *must.*" True, it mentions[74] the fact that an elephant in the pink of condition, leading a normal, happy life, desires the company of the opposite sex. But this could be said of any animal under such circumstances, and seems to be regarded by our text as merely an incidental feature. One verse mentions eight excellences, or valuable traits, of the *must* condition; "love-passion"[75] is only the fourth of the list, the others being "excitement, swiftness, odor, florescence of the body, wrath, prowess, and fearlessness." After this the text proceeds to describe in much detail the various forms of *must* and its seven distinct stages.[76] In all this description not a single mention is made of any sign of sexual passion in the elephant.[77] It seems to me inconceivable that this should be so if the author had thought of *must* (*mada*) as primarily a condition of sexual excitement.

The most striking symptom of *must* is certainly the discharge from the temporal glands, mentioned in the quotation from Evans above. These glands[78] are situated on either side of the

[74] ix, 2.

[75] The printed text of the verse in question (ix, 6) reads *gati*, "gait"; but for this *rati* must certainly be read, see my note 84 on the verse.

[76] ix, 10–18.

[77] Unless the discharging of "*must*-fluid" drop by drop from the penis, mentioned in verse 14, in the description of the third stage of *must*, be taken as such a sign, which seems to me hardly possible. But if it were so, this would be only one passing allusion in a lengthy description.

[78] Usually said to be two in number (e.g., Evans, p. 99; Brehm, p. 557); but according to Stanley Flower, as quoted by

forehead, "about midway between the eye and the ear-hole. Their ducts open on the skin in this region. The glands are usually inactive."[79] But when *must* comes on, they swell and later discharge a sweetish, sticky fluid, often in very abundant streams. Hindu poetry is full of allusions to bees coming and gathering sweetness from the temples of *must*-elephants.

According to our text, however, *must* fluid (which in Sanskrit is called by the same word, *mada*) flows not only from the temples, but from various other parts of the body. The clearest statement on this subject occurs in ix, 5, which mentions as such parts the "eyes, palate, temples, ears, navel, penis, trunk, nipples, and hairs of the body." This is not all, for v, 15 mentions *must* fluid as coming from the *saṁdāna*, a part of the body the exact location of which is not certain but which seems to be a part of the leg, particularly perhaps the hind leg.[80] Again, ix, 9 and 14 indicate the penis as an important source of *must* fluid.[81]

What does this mean? No modern writer, whether popular or scientific, alludes to any discharge in *must* except that from the temples. Yet certainly our text's statements must be

Penzer, *Ocean of Story*, VI, 67, n. 1, they number four, two on each side of the forehead, an upper and a lower pair.

79 Evans, p. 99.

80 Cf. vi, 11, and see my Glossary *s.v.*

81 A passage in the commentary to *SY.*, quoted in my note 83 to ix, 5, shows that this doctrine of multiple places whence the flow comes is not isolated, but must have been an accepted part of the elephant-science of ancient India.

based on something. It is a problem for biologists to solve by actual study of the elephant. So far no such study of this point has been made. The entire nature of *must* and particularly its causes are, in fact, very obscure as yet; there is great need of a real scientific investigation of the whole subject. The explanation which I am about to suggest must, therefore, be regarded as purely speculative and tentative. I hope that it may be "tested by the wise," as Nīlakaṇṭha said of his own work,[82] that is, proved or disproved scientifically.

It will be noted that most of the parts of the body named above, from which there is said to be a flow during *must,* are parts from which there are normal discharges of one sort or another, either regularly, or at certain times. We have seen that *must* undoubtedly occurs only or mainly in elephants in very good physical condition. It appears to be a sign of some sort of superabundant physical energy and vitality. On this ancient and modern writers agree. A symptom is the marked stimulation of the secretive activity of the glands on the temple, which are doubtless modified sebaceous glands.[83] It is natural enough to suppose that the activity of other bodily functions, and particularly of glandular discharges elsewhere, would be stimulated at the same time. Now it should be emphasized that there is nothing in the Sanskrit word

82 *ML.*, xii, 31.

83 So my colleague, Professor R. G. Harrison, kindly informs me.

(*mada*) rendered "*must*-fluid" (or, also, the condition of *must* itself) which in any way limits or specifies the nature of the fluid discharged, any more than the place of its discharge. There is, for instance, nothing to suggest that it must necessarily be a liquid of the kind discharged by the temporal glands.[84] Indeed, there are Hindu lexicons which define *mada* also as including other meanings, as for instance *semen virile*. It seems to me, therefore, that our author may only mean that the bodily secretions from the various parts named are stimulated and enhanced during *must*. Elsewhere other texts[85] say that the "*must*-fluid" from the trunk is specifically called *sīkara,* which means "spray"; in this case it can only mean liquid which the elephant sprays from his trunk. Now such "spray" is for the most part not a bodily discharge at all, apparently, but consists of water which the elephant first takes into his trunk and then sprays out from it; yet the text may be right in implying that some of it, at least, is a bodily secretion, that is, from the membranous lining of the trunk itself. In the case of some of the parts named, such as the navel, the hairs of the body,[86] and the

[84] The specific name for this discharge is *dāna*. This is indicated by the *SY.*, comm. passage quoted in my note 83 to *ML.*, ix, 5.

[85] *SY.*, comm., see preceding note.

[86] The reference can hardly be to sweat glands, for their discharge is so slight as to be scarcely perceptible; this gave rise to the fancy mentioned in *ML.*, i, 39, that elephants "sweat inwardly" and discharge the sweat from their trunks; see my note 23a on this verse.

saṁdāna, no fluid is known to be discharged. But sebaceous glands undoubtedly exist in all these places; and it is quite possible that in the pathological condition known as *must* they may be so stimulated as to show secretions perceptible to a careful observer, though they have escaped general notice.[87]

The great interest which the specialists in elephant-science naturally felt in the subject of *must* is indicated both by the whole chapter which the *Mātañga-līlā* devotes to it, and by the careful enumeration and description of seven different stages of *must*.[88] Modern descriptions are not sufficiently detailed to make comparisons possible, beyond the fact that the first stage, called "temple-filled," evidently corresponds, as we saw above, to the stage called *kherr musth* by Evans, in which the temples swell and become puffy. We also find a distinction made[89] between the "victory-bringing" and "dangerous" types of *must*. All modern writers tell us that it affects different animals very differently; some are very excited, while others are "dull and morose." The latter are evidently referred to under the heading "dangerous" *must*; such an elephant "is very melancholy, sighs

87 This explanation is partly due to my colleague, Professor R. G. Harrison, of the Yale Department of Biology. He regards it as certainly possible, though he disclaims knowledge of the subject.

88 ix, 12–18. This list is more or less standard. With slightly varying names it is found in *SY.*; and in the MS T we find nine stages instead of seven; see my note 89 to ix, 12.

89 ix, 10–11.

long and gently . . . his limbs are sluggish," etc.[90] In another verse[91] reference is apparently made to the danger implicit in failure of *must* to appear periodically, to which Evans alludes in the last part of the passage quoted above. Disturbing as this condition is, it is a necessary feature of the normal life of healthy elephants, and if it fails to occur, that means that something is wrong. As our text puts it, it is due to the "previous wasting away of the bodily humors," and three months must be devoted to the recovery of these "humors."[92]

At the end of the chapter (ix) occur various medical receipts to be used on *must* elephants. Verses 20–21 give the elaborate composition of a pill to be fed to them, sweetened with honey to make it palatable, when *must* appears. For this Evans[93] prescribes a dose of opium or *ganja* mixed with something sweet—plantains (bananas), jaggery, or sweetened rice. Verse 22 prescribes a pill intended to "augment their passion," that is, I presume, to bring on *must* when it is unduly delayed owing to bad physical condition. And verse 23 gives a prescription which is to be smeared on the body to "bring into control a *must*-maddened elephant." Evans knows nothing like this external application; his medicines are all to be administered internally.

[90] ix, 11. [91] ix, 19.

[92] So also Evans, p. 176, and Wilson (see notes 70 and 71 above) prescribe "months" of complete rest as the only possible cure for an elephant in whom *must* fails to appear.

[93] P. 176.

THE ELEPHANT-SPORT

THE ELEPHANT-SPORT OF NĪLAKAṆṬHA

CHAPTER I

ON THE ORIGIN OF ELEPHANTS

1. I revere the Man-lion (Viṣṇu) and the Yādavan (Kṛṣṇa), two shining (also, punningly, ruling) forest fires for the dread jungle of hosts of devils, the two gods who wear the formal pomp of kings of kings.

2. Having made obeisance to the Elephant-faced (Gaṇeśa), having studied the Science of Elephants expounded by the distinguished Sage (Pālakāpya), having let my mind dwell upon the sport of elephants, I now compose this 'Elephant-Sport.'

3. The origin of elephants (chapter i), their (physical and mental) characteristics, favorable (ii) and unfavorable (iii), their marks of longevity (iv) and the marks of their stages of life (v), their measurements (vi), the variations in their price (vii), and the differences in their character (viii) and in their *must* (ix), one after another; also the catching of wild ones (x), the ways of keeping them and the differences in their daily and seasonal regimen and the like (xi), and the qualities required in an overseer of elephants and so forth (xii): all this will be succinctly stated.

4. There was an overlord of Aṅga, like unto

the king of the gods, famed under the name of Romapāda. Once he was seated on a jeweled throne on the bank of the Ganges in the city of Campā, surrounded by his retinue, when some people reported to him that all the crops of grain, etc., were being destroyed by wild elephants. The king reflected: 'Now what can I do?'"[1]

5. At this time the distinguished sages Gautama, Nārada, Bhṛgu, Mṛgacarman, Agniveśya, Arimeda, Kāpya, Mātañgacārya, and others, on divine instigation arrived in Campā. The king received them courteously with seats, flowers (guest-garlands), and water (for the feet), etc.; and out of regard for him they granted the king of Añga a boon, to catch the wild elephants.[2]

6. On the way the king's men, whom he dispatched to catch the elephants, beheld as they roamed in the jungle a sage Sāmagāyana who was staying in a hermitage. Near by a herd of elephants was grazing; and they saw the glorious hermit Pālakāpya, who was with the elephant herd, but was separated from it at morning, noon, and night.[3]

[1] Cf. *HA.*, Bk. I, chap. i, vss. 4–18; 53–55.

[2] Cf. *HA.*, I, i, 19–36. Here the king tells the sages that the gods had granted him the boon of having elephants for vehicles, and asks them merely to make this good by sending forth men to catch them.

[3] Cf. *HA.*, I, i, 36–52. *ārād*, 'near,' cf. my *Mīmāṅsā Nyāya Prakāśa*, Gloss. *s.v. ārādupakāraka*, and *HA.*, 44, *adūrataḥ.*—*sandhyāsu*, 'at the (three) "joints" '; Zimmer understands only morning and evening, which would require a dual; moreover, it was precisely at *noon* that P. waited on his father according to *HA.*, 51.

7. All this was reported to the lord of Aṅga by his servants. So he went and, while the hermit was gone into the hermitage, caught the elephants, and came straightway to Campā, and gave them over to the excellent sages Gautama, Nārada, and the rest. But they fastened them securely to posts, and then dwelt there in peace, as did the other folk likewise.[4]

8. Having performed his service to his father, the hermit Pālakāpya came out from the hermitage to the place where the elephant herd had been. Not finding it there, he searched everywhere, and so came to Campā, disturbed at heart with affection (for them), and tended the elephants in their distress by applying medicaments to soothe their wounds, and in other ways.

9. Now Gautama and the other sages who were there saw this illustrious hermit who was spending his time in silence in the midst of the elephant herd; and so they asked him: "Why do you anoint their wounds? What made you take compassion on the elephant herd?" Though the sages questioned him thus he made no reply.[5]

10. Then the noble sages reported these facts; hearing which the king of Aṅga went thither, and paid respects to the hermit with foot-water and other courtesies, and asked him all about his family and (personal) name and the rest (of his history), being curious to hear. But when that blameless hermit made no reply to him, the king

[4] Cf. *HA.*, I, i, 52–62.
[5] Cf. *HA.*, I, i, 63–77 (= our 8–9).

pressed him yet again with questions, bowing low in homage.[6]

11. Then, propitiated, the sage Pālakāpya said to the lord of Aṅga: "Formerly elephants could go anywhere they pleased, and assume any shape; they roamed as they liked in the sky and on the earth. In the northern quarter of the Himālaya Mountain there is a banyan tree which has a length and breadth of two hundred leagues. On it the excellent elephants alighted (after flying through the air).

12. "They broke off a branch (which fell) upon a hermitage place, where dwelt a hermit named Dīrghatapas. He was angered by this and straightway cursed the elephants. Hence, you see, the elephants were deprived of the power of moving at will, and came to be vehicles for even mortal men. The elephants of the quarters, however, were not cursed.[7]

13. "The elephants of the quarters, attended by all the elephant tribes, went and said to the Lotus-born (Brahmā): 'O god, when our kinsfolk have gone to earth by the power of fate, they may be a prey to diseases, because of unsuitable and undigested food due to eating coarse things and overeating, and other causes.' Thus addressed by them in their great distress, the Lotus-born replied to them:[8]

14. " 'Not long after now there shall appear

[6] Cf. *HA.*, I, i, 78–82.

[7] Cf. *HA.*, I, i, 83–91 (= our 11–12). A divine voice interceded for the elephants of the quarters, *HA.*, 91.

[8] Cf. *HA.*, I, i, 92–96.

a certain sage fond of elephants, well versed in medicine, and he shall right skilfully cure their diseases.' Thus addressed by Fate (Brahmā) the elephants of the quarters went each to his own quarter, while the others, their kinsfolk, went to earth in consequence of the curse.[9]

15. "(A nymph) Rucirā ('Lovely') was fashioned by the Creator as he fashioned Speech, by collecting the beauties belonging to sprites, men, demons, and gods. But once she was cursed by Fate (Brahmā) because of her evil pride. Hence she was born as a daughter of the (tribe of) Vasus, from Bhārgava, and was named Guṇavatī. Her great curiosity led her once to the hermitage of Mataṅga.[10]

16. "Thinking 'Nay, she has been sent by Indra to disturb my penance!' he cursed her, and she became an elephant cow. Then the sage, realizing that she was innocent, straightway said to her: 'Fair elephant cow, when from drinking the seed of the hermit Sāmagāyana a son shall be born to you, then your curse shall come to an end."[11]

17. "A certain *yakṣī* (female sprite) once appeared to the hermit Sāmagāyana in a dream.

[9] Cf. *HA.*, I, i, 96–100.

[10] Cf. *HA.*, I, i, 110–136, which makes clear the meaning of this rather turbid verse; Zimmer has completely misunderstood it; e.g., he makes *durgarva-taḥ* (she neglected the gods, *HA.*) a proper name, 'der Heilige Durgarvant' (! what sort of a stem is *Durgarvant?*). On our pāda c cf. *HA.*, 118, *bhārgavākhyāte vasuvaṅśe*, and the following through 132; the passage guarantees my interpretation.

[11] Cf. *HA.*, I, i, 136–147.

Then the noble hermit straightway went out from the hermitage and passed water. With the urine, seed came forth. That she drank when the hermit had reëntered the house, and speedily the elephant cow conceived and brought forth a son, from her mouth.[12]

18. "Giving her son with joy to the sage, she left the form of an elephant cow and quickly went to heaven, freed from her curse, in peace. Pleased, that hermit Sāmagāyana then performed the birth rite and other rites for him, and in accordance with (the instructions of) a heavenly voice gave him the name of Pālakāpya.[13]

19. "And he played with the elephants, their cows, and the young elephants, roaming with them through rivers and torrents, on mountain tops and in pools of water, and on pleasant spots of ground, living as a hermit on leaves and water, through years numbering twice six thousand, learning all about the elephants, what they should and should not eat, their joys and griefs, their gestures and what is good and bad for them and so forth.[14]

20. "Know, King of Aṅga, that I am that hermit Pālakāpya, son of Sāmagāyana!" Thus addressed by that excellent sage, the King of Aṅga was greatly amazed. Then the sage, questioned further by that king with regard to elephants, told the prince about the origin of ele-

[12] Cf. *HA.*, I, i, 101–109; 148–151.
[13] Cf. *HA.*, I, i, 152–156.
[14] Cf. *HA.*, I, i, 157–164; 182–183.

phants, their favorable and other marks, their medical treatment, and other things, one after another.[15]

21. The creation of elephants (as told in the following) was holy, and for the profit of sacrifice to the gods, and especially for the welfare of kings. Therefore it is clear that elephants must be zealously tended.[16]

22. The (cosmic) egg from which the creation of the sun took place—the Unborn (Creator) took solemnly in his two hands the two gleaming half shells of that egg, exhibited (to him) by the brahmanical sages, and chanted seven *sāmans* at once. Thereupon (from one shell) the elephant Airāvata was born, and seven (other) noble elephants (i.e., the eight elephants of the 'quarters' or regions) were severally born, through the chanting.[17]

23. Thus eight elephants were born from the (cosmic) eggshell held in his right hand. And from that in his left in turn eight cows were born, their consorts. And in the course of time

[15] Cf. *HA.*, I, i, 159; 184–185.

[16] Cf. *HA.*, I, i, 219–222.

[17] Cf. *HA.*, I, i, 218; *SY.*, Vol. I, p. 483; and T, pp. 10 f., where the story is paraphrased in greater detail: After the creation of the Sun from a golden egg, the *maharṣayaḥ* took the two halves of the eggshell and showed it to Brahmā (*te 'bhigamya trilokeśam . . . tad aṇḍaṁ darśayām āsur*, which interprets our word *darśitaṁ*, misunderstood by Zimmer), and urged him to create elephants therefrom. He approved the suggestion and proceeded as told in our verse. The names of the elephants are given and etymologies of the usual sort are provided for them. In *Mbh.*, Bk. VII, chap. 121, vss. 24 ff. and Nīlakaṇṭha's comm. elephants are classified as descended from the eight elephants of the quarters (not all named in the *Mbh.* text itself).

those elephants, their many sons and grandsons, etc., endowed with spirit and might, ranged at will over the forests, rivers, and mountains of the whole world.

24. And the (eight) noble elephants (of the quarters) went to the battle of the gods and demons, as vehicles of the lords of the quarters, Indra, Agni, and the rest. Then in fright they ran away to Viriñca (Brahmā). Knowing this, the Spirit of *Must* was then created by Fate (Brahmā); when it had been implanted in them, infuriated they annihilated the host of the demons, and went with Indra and the rest each to his separate quarter.[18]

25. Durvāsas respectfully gave the Lord of the Gods a marvelous garland. It was crushed by Airāvata, which seeing the sage mercilessly cursed him. By his curse he was destroyed, and then was (re-)born (as) the mate of Abhramu in the ocean when it was churned (by Indra) to win him back and to win complete supremacy. Hence he is reputed to be born of the milk ocean.[19]

26. 'State' elephants, furnished with their characteristic marks, were produced (prevailingly) in the ('golden') *kṛta* age; elephants of the 'slow' caste in the (second) *tretā;* in the (third) age called *dvāpara,* these elephants known as 'deer'; in this very *kali* age those of 'mixed' caste. Here the production of elephants

[18] The spirit of *Must* (*mada-puruṣa*) is alluded to in *SY.*, I, 490; the comm. says he is a *rākṣasa.* The same story in greater detail in T, pp. 14, 16.

[19] In more detail T, pp. 20 f.

according to their different castes is set forth, each appropriate to its association with (its respective) world age.

27. The handsome elephant called 'state,' originating in the first world age and in spring, has his entire body not overstout, has rosy color, (great) girth and length, is enduring, mountain ranging, a good caravaner, sensitive according to the meaning (of the stimulus applied in driving him), resolute, energetic (or, dignified), great, has a roar like a (thunder-)cloud, is loved by the cows, is heroic, has tawny eyes and tusks, and well-balanced (bodily) humors.

28. The elephant called 'slow' is said by the sages to be born in the *tretā* age and the cool season; he ranges both (in rivers and on mountains), is dispirited (or, has a bad disposition), has short ears, is not (very) long, is slow moving, his eyes have a yellow glint, he is characterized by (the quality, *guṇa*) 'dulness' (or 'darkness,' *tamas*), and dark in color; he is an elephant in whom phlegm predominates, has large curved tusks, is distinguished by a stout round body, is lustful, and responds (only) to profound (harsh) stimuli.

29. Deficient in girth and length, his whole body lean, his form has a grayish color, he eats much, responds to slight stimuli (i.e., is highly sensitive), his mind is unstable and he is easily angered, he is river ranging, has large eyes (? is nearsighted) and short tail, he is born in the last (*dvāpara*) age and in the rainy season, he is violent and has a predominance of bile; thus is

described that smallish elephant known as 'deer.'

30. The elephants of 'mixed' caste are born abundantly in the *kali* age; (they are so named) from the mixture of the characteristics mentioned for the 'slow' and the other castes.[20]

31. Because they go everywhere they are called *nāga* (*na-a-ga*); *gaja*, because they conquer (*ji*) and likewise because they roar (*garj*); *hastin*, because they were born from the hand (*hasta*) of the Creator; *vāraṇa*, because they ward off (*vṛ*, caus.) the hosts of hostile kings; *mātaṅga*, because of the muddiness (*mṛt-tva*) of their paths (implying *-ga* from *gam*, 'go'); *kuñjara*, because they wear out (*jar*) the earth (*ku*) with the pressure of their feet; *padmin*, because they are fond of lotuses (*padma*); *dvipa* ('twice-drinking') because they drink both with the mouth and with the trunk.

[20] On the 'castes' of elephants, cf. my Introduction, sec. 4; T, pp. 100 ff.; *Var. Bṛh. S.*, chap. 67, 1–3; *SY.*, I, 492 ff.; Śukranīti, 4, 7, 69–75; *KA.*, II, 31 end (Sh., 137, ll. 10 f.).—The word *sthūlākṣa*, vs. 29, occurs also in T, and the synonym *sthūlekṣaṇa* in *SY.*, I, 493, l. 6, where the comm. interprets it as 'nearsighted' (*sthūlaṁ vastu paśyanti sūkṣmaṁ na paśyanti*), which may perhaps be right.—The words *dharaṇidharacaraḥ* (= *giricara*, etc., T, cf. Śakuntalā, II, 4), vs. 27, *ubhayacaro* (T also *miśracāra*), 28, and *sindhucārī* (T also *nadīcara*, etc.), 29, are explained by a long passage in T, pp. 135–137, which classifies elephants thus and describes the characteristics of each group. See my Introduction, pp. 3–4, and n. 4. They are not vague descriptive epithets, but definite types. The 'river-rangers' are relatively delicate, dependent on water, not good at traveling over difficult ground, not very heroic, and not good fighters. The 'mountain-rangers' are sturdy and vigorous, effective in warfare, and can penetrate the most inaccessible places. The 'rangers in both places' have a mixture of the

32. Since they attack with trunk, tail, tusks, and four feet also, therefore elephants are (called) 'of eight blows.'

33. They (*i-me*) are afraid (*bhī*) of all, and their form is superior (*a-bhya-dhika*) to all on the ground of beauty; so the great sages call them *i-bha*.

34. Because they are provided with an excellent 'hand' (trunk, *kara*), they are called *karin*, and also *dantin* (tusked; not explained as being obvious); *sindhura*, because they delight (*ram*) in rivers (*sindhu*); thus we have the list of etymologies (of their names).[21]

35. The inversion of the tongue, and internal fire to an excessive degree, are from Agni; from

characteristics of both. The following may serve as samples from T's long description (p. 137): *kṣuttṛṭśramāṇām asahās tv avāgrā susnigdhadīrghonnatadantakośāḥ, nīcair nibaddhā bhayasaṁprapannā nadīcarās te calamāṅsadehāḥ.—uccair nibaddhāḥ kaṭhināḥ sunīlāḥ bhavanty udagrāś ca mahābalāś ca, jitāśramā ye tanurūkṣadantāḥ gajottamās te khalu śailacārāḥ.—na snigdhabhāvā na ca rūkṣabhāvā dantāś ca yeṣāṁ suvibhaktagātrāḥ, samāḥ samagrāḥ samavegakopāś caitān praśaṅsa[n]ty ubhayapracārān.* (The terms *avāgra*, *udagra*, and *samagra* are explained in a verse in T, p. 138, as meaning, respectively, 'having the head lower than the withers [*āsana*],' 'having it higher,' and 'having head and withers level in height.' According to the same verse the *udagra* makes the best fighter.) T differs from the implication of *ML.* in this passage, however, in that it does not limit the three types of 'rangers' each to one of the three castes. On the contrary it definitely says that they may all be of all three castes, except that it makes no mention of a 'mountain-ranger' of the 'deer' caste, which is probably not accidental and confirms to that extent the view of *ML.* (A 'river-ranger,' however, may be of the 'state' caste as well as of the other two.)

21 Similar, but only partly identical, etymologies with those of vss. 31–34 are given in T, pp. 80–81.

Brahmā, lack of a scrotum, and delight in dust, water, and mud; from Dīrghatapas, exile from their (original) station, the carrying of men, and loss of divinity; from Bhṛgu, attraction to their own dung and urine; from Varuṇa, internal sweat, by his curse.[22]

36. Once the Oblation-carrier (Agni) hid himself in anger because the gods did not give him his proper share of the oblation. Brahmā sent forth the elephants of the quarter-regents to search for him, the Firegod. They went to Agni's place of abode and treated violently his consort. Because of her complaint he cursed them, not being able to burn them by reason of his (Brahmā's) power.[23]

37. "Since in great insolence you said (thought) that because you obeyed the previously expressed command of the Creator you could do any such violent deed, behold for this reason you shall instantly, from this moment, be subject always to inversion of the tongue, and likewise to internal fire"; thus they were subjected to Agni's curse. Then in compassion the Lotus-born granted them the delights of dust, water, and mud.

22 Corruptly quoted T, p. 31; the only real variants are *adhiko* (better!) for *adhikaṁ* in a, and *abjajād* for *brahmaṇo*. In b, T also reads *svasthemasaṁmohanam* (only with *stheha* corruptly for *sthema*), which I interpret differently from Zimmer.

23 More fully told in T, p. 30; *mahiṣī* in c means 'wife,' not 'Büffelkuh' (Zimmer); cf. T, *gatvāśramaṁ hutāśasya tasya patnīm akalmaṣām, dharṣayā[mā]sur. . . .* Agni's wife, of course, is Svāhā, who is named by T in the sequel. T also makes it clear that *tat* in *tatprabhāvān* (d) refers to Brahmā.

38. The elephants went to Bhṛgu's hermitage and tore down trees, and voided dung and urine in the holy fire there. Hereupon the good sage straightway became angry: "Upon smelling their own dung and urine, let them always be producing a tickling of the palate (an attraction for it)!" Thus they were once cursed by that sage of extensive penance.

39. Of old, seeing that the throng of gods in the battle of the gods and demons could not endure the oppressive smell of the sweat of the elephants in the battle front the Noose-bearer (Varuṇa) then speedily turned the sweat of the elephants inward. Therefore their drops of sweat go inward and the noble elephants expel them from their trunks. But their absence of scrotum was granted by fiat of the Unborn (Brahmā), that they might move more swiftly and freely in battles, etc.[23a]

40. Of all creatures the springtime is declared to produce *must* (intoxication, exhilaration), but particularly of elephants. Therefore those who are born in spring are scent elephants. And from the smell of their sweat, dung, urine, and *must*-fluid other elephants instantly are excited (made *must*). These scent elephants are bringers of victory to kings.

[23a] The elephant's testicles are internal (Evans, p. 90). The myth that they sweat internally is doubtless explained by the fact that the secretion from the sweat glands, though real, is slight (Evans, p. 74).

Here ends Chapter I, dealing with the Origin of Elephants.

CHAPTER II

ON FAVORABLE MARKS

1. A vehicle for a king is an elephant in whom these six parts are elevated: the two temporal bosses, the two tusks, the withers, and the backbone.[24]

2. An excellent elephant is one who has these seven parts red colored: the two trunk ends, penis, tongue, lip, anus, and palate.[25]

3. (Good is) an elephant whose feet are distinguished by nails numbering twenty, the elevation of whose temporal bosses is great, whose two ears are red and their edges not frayed, whose girth is very smooth, whose tusks are honey colored and the right one higher, whose belly is well filled out, whose tail and trunk are regularly stout, straight, long, and handsome, who is swarthy like betel nuts.[26]

4. Whose body is smooth and swarthy, colored (dark) like a sword, or else ruddy with the sheen of gleaming spots in the shape of the *svastika,* the *śrīvatsa*-sign, the wheel, the conch, and the lotus; whose buttocks stand out like breasts, and who has a good penis depending from a firm belly; whose *kalā*-part is broad, very

24 T, p. 162 (*ānanaṁ* for *āsanaṁ*).

25 T, p. 162 (before our vs. 1; °*tālavaḥ* for °*tālu ca*).

26 T, p. 83, has a similar verse as to the first half, beginning: *viṅśatyā nakhasaṁpadānvitapadaḥ sāronnataḥ kumbhayoḥ, ni chidrā°*.—Here *savya* (c) = 'right,' cf. ii, 7; vii, 3. On the number of an elephant's toenails see my Introduction, p. 10.

fleshy, and elevated: such an elephant is worthy of a king.

5. With large, long, round necks, trumpeting with a roar like clouds full of water, with sparrow-like honey-colored eyes, with trunks like tree stems and marked with three folds (wrinkles), such elephants are fine.

6. With very glossy, shining eyes, and reddish trunk ends, with rod-like penis handsome with the beauty of mango shoots, radiant as red lotuses, with voice like the koil's; such elephants, assuredly, are auspicious for kings.[27]

7. Whose right tusk tip is high (higher than the left), whose mighty trunks and faces are marked with (light) spots, whose stout fore and hind legs have invisible joints, these (elephants), O prince, are fit vehicles for you.

8. Whose backs have good spines well concealed (with flesh), long, and curved like bows, whose temporal bosses are hairy and (large) like the swelling breasts of a lovely woman, with broad ears, jaw, navel, forehead, and pudenda, with copper-colored lip, palate, and tusks, such elephants are worthy of a king.

9. Whose body is variegated with spots like one thickly painted with vermilion, provided with eighteen or twenty toenails (cf. verse 3) curved like a tortoise and moon-colored, gifted with strength, spirit, and fortitude, also characterized by fragrance of the water he spurts from his trunk, such an elephant is worthy of a king.

[27] T, p. 82 (a, *ābhūmidīrgha ṛjuvṛttasuromavālā;* b, *çūra* [corrupt] for *cūta*).

10. Avoiding (? young) elephants that are weak, roguish, dull, and ill, one that is endowed with majesty, industrious (or efficient), clever in the eight ways of fighting (cf. i, 32), heroic, stout, swift, his mind eager to slay all living creatures, provided with the favorable marks—such a noble elephant shall be held fit for a king's battles.

11. Warriors only fight; horses only draw chariots; but elephants that are fit for a king both fight and draw.[28]

12. A gait like an antelope, lion, parrot, ape, wrestler, *haṅsa* or *kādamba*-bird shall be regarded as excellent, or like a *gandharva*, *kinnara*, eagle, boar, tiger, king, *śarabha* (fabulous animal), serpent, or *cakravāka*-bird.

13. Their cry that is produced from the tongue root (soft palate) shall be called 'frothy'; that produced from the lip and the (hard) palate is 'boated' (?); that produced in the throat is their 'roar,' that produced in the cheeks and trunk, their 'laughter.' All these are auspicious. The sounds of elephants that are due to hunger, thirst, grief, and fright are declared to be very inauspicious.[29]

14. The sounds that are deep, pleasant, joy-

[28] T, pp. 73 f. (b, *tathā hayāḥ* for *hayā ra°*; c, *narendrāṇāṁ*).

[29] T, p. 143, has the same general sense in different words, and makes it clear that *four* sounds are mentioned (not five with Zimmer, who takes *nigaditaṁ* as a fifth). There is nothing in T to explain the meaning of the first two, *phenāyitaṁ* and *potāyitaṁ*, which are obscure to me. (For the latter Zimmer says 'Kindsruf,' which is implausible.) On sounds made by elephants cf. Sanderson, pp. 49 f.

ous, healthy, amorous, and bland—these six, O king, are declared to be auspicious sounds of noble elephants.

15. The princely elephant who makes with his trunk a sound like a drum, with his ears one like a kettledrum, and with his mouth one like a flute, is rated high.

16. The sounds like those of a *haṅsa,* crane, peacock, *koil,* tiger, lion, and bull are rated high; inauspicious are those like a camel, crow, jackal, boar, and ape.

17. If elephants are complete in all the list of good qualities but have too few or too many toe-nails (cf. verses 3, 9), they accomplish only evils; and the reverse of these, good.

Here ends Chapter II, dealing with Favorable Marks.

CHAPTER III

ON UNFAVORABLE MARKS

1. If he has too few or too many toenails or members of the body, visible (external) testes, or (too) short (trunk-) 'finger,' if he is dwarfish, frog-bellied, misshapen, has a blue, mottled, or brown-colored palate, is stolid, overlean, or leech-like (bloated?), or if his two flanks are not symmetrical, if he is rough (in the skin), deficient in *must,* and his trunk has too short ends, such an elephant is not rated high.

2. If his tusks have streaks or lumps, and are very rough, blotched, or coarse; if his penis is leprous spotted, not smooth and even, has white spots, is very short, is covered over with veins and thin;[30] if his tail is very crooked, enormous, distorted, knotty, or short; if his tail root, *kalā,* and back are small; that elephant is inferior.

3. But where an elephant with visible (external) testes is found, O king, there the king is killed by a son or by a friend.

4. One that has lost an ear on the right side destroys the four castes; on the left side, he destroys craftsmen, and the king also becomes afflicted with disease.

5. One that has (evil) spots on his skin, tusks, palate, toenails, etc., shall be abandoned; or

[30] On this *pāda* cf. T, p. 100: *kilāsiprāptam asnigdhaṁ viṣamaṁ śvetabindumat, śvetaṁ śirāgataṁ meḍhraṁ vivarṇaṁ sa* [read *na*] *praśasyate.*

else the wise man shall perform in proper fashion an operation to burn or scrape them off, and all the things necessary to heal and cure them, and cut them off.

6. One who roams at night overly excited, or early in the morning cries out in excitement at the (song of the) birds, who is always trying to fly up into the air, or fanning with his stick-like tail, who incessantly lifts up his fore-limbs, and who constantly gets out of the control of his driver: know that such a one is a rogue elephant, and must not be taken, even if he is rich in quantities of all excellences.[31]

7. An elephant cow that is pregnant or that is accompanied by a calf, if taken, causes destruction to vehicular animals and treasury. One should take her to a penance grove or to her own grove (and turn her loose), and then render homage to the elephants of the quarters and the gods.[32]

31 A close paraphrase, confirming the precise interpretation as above, occurs in T, p. 118.

32 Cf. T, p. 25, which confirms my interpretation of d against Zimmer: *parityajyātha tāṁ sadyaḥ sadvane* [read *svavane?*] *vā tapovane, diggajānāṁ ca devānāṁ kuryāt pūjāṁ samāhitaḥ.*

Here ends Chapter III, dealing with Unfavorable Marks.

CHAPTER IV

ON MARKS OF LONGEVITY

1. Those who have glossy tusks, nails, hair, and eyes; long ears, trunk, tail, and spine; who have a full complement of the favorable marks cited in an earlier place (chapter ii); the surfaces of whose frontal bosses are symmetrical: these are long lived.[33]

2. Having the seven red parts (ii, 2) and the six elevated parts (ii, 1), of majestic spirit, fragrant, having the color of dark-blue clouds, loud-roaring, having a double or triple skin (thick-skinned), these are long lived.[34]

3. The foreparts, head, eyes, face, ears, neck, belly, tusks, trunk, character, color and the hind members, those are the twelve 'departments' of elephants, equal (in number) to their stages (decades) of life.[35]

4. As many of these 'departments' as possess the proper aspect fully developed in any (elephant), just so many 'stages' (decades) shall be his life; so Bṛhaspati has declared.[36]

5. One who has these distinguishing marks,

[33] T, p. 162, reading in d: *hastinas samaśirāś cir°*.

[34] T, p. 162, reading *tri* for *tra* in d.

[35] T, p. 111. Another list of twelve *kṣetras*, T, p. 110: *hasta, vadana, danta, śiras, nayana, karṇa, grīvā, gātra, uras, kāya, meḍhra, aparadvayam*. Of these, the first eight are the *pūrva-kāya;* the next two, the *madhyama-kāya;* and the last two, the *apara-kāya*.

[36] T, p. 111.

three, five, seven, or eight in number, attains long life to just that extent (i.e., to the extent of three, five, seven, or eight decades); this is my opinion.[87]

6. The fourth (stage, decade) is declared to be full life for the 'deer' caste (i.e., he lives four decades), the eighth for the 'slow' caste, the twelfth for the 'state' caste.[88]

[87] T, p. 163, reading *trīṇi ṣaṭ sapta pañcāṣṭau* in a, and *āyūṅṣi la°* in c.

[88] T, p. 163.

Here ends Chapter IV, dealing with Marks of Longevity.

CHAPTER V

ON MARKS OF THE STAGES OF LIFE.

1. Up to the twelfth year his age makes him worthless; before the twenty-fourth year he is of middling value; up to the sixtieth year this noble elephant is called the best in respect to age.

2. Tender, copper-colored, with soft down on his fore-limbs, drowsy, marked by a blotchy trunk, having limbs undeveloped in form, seeking the breast, in the first year he has the name of *bāla* ('infant').[39]

3. With toenails getting somewhat thick, with the tongue, lip, and the rest (the seven 'red parts,' ii, 2) very red, drinking little milk, some-

[39] T, p. 154, reading *udghīrṇita* (or *uddhīrṇ°*) for *añkūrita* in b, and *tanvāsyapādaḥ* for *bālāhvayo 'yaṁ* in d. In T this is the first of a series of stanzas, all (except the last) in the *upajāti* or *ākhyānakī* (or *indravajrā* or *upendravajrā*) meter, describing in turn each of the first ten years and then each of the decades of the elephant's life. Included are our vss. 16, 17, 21, 22; and it concludes with our 23. The whole is stated, at the end, to be a quotation from the *Rājaputrīya,* which Matsyapurāṇa, 24, 3, mentions as a work on elephants by Budha (the planet; called Rājaputra as son of Soma-rāja). It is preceded by two other long passages on the same subject, the first one fragmentary and dealing only with the last seven decades, the other complete and quoted from the 'Gautamīya'—whatever that may mean. It is followed by another complete set of verses on the same subject, which is identical with those in our text except for our 2, 16, 17, 21, and 22, which are replaced by others; at the end is the statement: *iti Sarasvatīkaṇṭhābharaṇe vayojñānaṁ saṁpūrṇam.* In the famous rhetorical work of this name attributed to Bhoja I have not found these verses.

what inclined to eat creepers, grass, etc., reddish between the foreparts; he capers constantly for no special reason, is generally frolicsome, intensely fond of sugar, with down-turned eyes, causing delight to the sight, in the second year he is a *puccuka.*[40]

4. With clearly developed nails, *vidu,* joints, ears, and sheaths and covering of the tusks; spotted on the breast, and on the lobes of the ears; hairy in the ears and on the head, with uplifted head, eating grass, with rather stout (firm) rows of teeth, in the third year he is an *upasarpa.*[41]

5. Deep red in the *vilāga* and *niṣkośa,* averse to milk, stout in the *proha* and *saṁdāna,* fond of (eating) grass, with black-tipped palate, broad, with tusks projecting somewhat (from their sockets), in the fourth year he is a *barbara.*[42]

6. With wood-like (hardening) skin, thin (nearly closed) sutures (in the skull), thin hair (on the head), fond of mud, water, and dust; he shows a very little sexual excitement, becomes angry, is sensitive to pleasure and pain and to guidance with the foot, and also understands words (of command) and other (directions, *sc.,*

[40] T, p. 156 (*virāga°* in a; *khādanamanā* in b; other variants, e.g., *cūcukaḥ* for *puccukaḥ* in d, are mere corruptions).

[41] T, p. 156 (*śravaṇi śirasi keśī namra°* in c). *Chavir* in b, as well as *praveṣṭa,* goes closely with *danta,* cf. vs. 12. "Young elephants usually have much more hair about them than adults." Evans, p. 74. On the *vidu* and other names of parts of the body mentioned in this chapter, see my Glossary.

[42] T, p. 156, reading in d, *praveṣṭaniryaddaśano;* cf. (in another verse on the same year of growth, T, p. 154) *nirveṣṭadanto.*

with goad or stick), and so (begins to be) controllable by a driver, and is superficially sensitive (to very slight stimuli); the nape of the neck, *avagraha,* and tusks become prominent: this is a *kalabha,* who has reached the fifth year.[43]

7. Who is fairly marked with abundant spots on the ear lobes, temples, mouth corners, *vilāga,* upper rims of the eye sockets, both ear tips, and *pratimāna;* whose body is free from wrinkles; such, they say, is a *naikārika,* in the sixth year.[44]

8. With firm (compact) nails, soles, joints, *proha, saṁdāna, cikkā, pali,* trunk, and nail tips, eating with the teeth, itchy, showing well-developed speed of limbs and well-developed *avaskāra,* with smooth forelegs and ends of the trunk tips, he is declared to be a 'youngster' (*śiśu*), in the seventh year.[45]

9. With firm nails, soles, and joints, in whom (even) quantities of wounds heal over quickly, eating very soft grass, with unstable (dropping out) rows of (first) teeth, always showing an unsteady gait, not yet sexually potent (?) but subject to erections, still feeble in blows—he is called a *majjana,* in the eighth year.[46]

10. He is clear eyed; he jumps the cow but

[43] T, p. 156 (a, *kāṣṭhatvakkaṇasevana-sphuṭakacaḥ;* c, *dhāvati gajān* for *yantṛ°*).

[44] T, p. 157 (c, *balihīnavakṣāḥ*).

[45] T, p. 157 (b, transposes *nakha-kara;* d, *°puṣkarākṣaḥ*).

[46] T, p. 157 (c, *veṣṭagharṣi,* see Glossary, *s.v. varṣa-gharṣin;* d, *°mṛdukośo 'py aṣṭame sujjanā°*).

does not emit seed; smooth skinned, with his (first) set of teeth fallen out, broad breasted, he becomes firm (solid) in his bodily orifices (vulnerable points) and joints, and can strike vigorously; him they call a *dantāruṇa,* born nine years before.[47]

11. Producing seed upon jumping (the cow), stout-limbed, with erect penis, firmly grown teeth, rich in fire and strength, eating with relish, gladdening the herd, in the tenth year he is a *vikka.*[48]

12. Strenuous, handsome with clearly developed joints in his forelegs, fecund, sensitive to pain, with wrinkles in the *proha,* etc., dealing vigorous blows, having yellow-covered surface of the tusks, delighting in places that are hard of access, with well-rounded buttocks, *avaskāra,* and ear lobes, mighty in love, speed, and prowess, he has arrived at the second stage (decade), and is known as a 'colt' (*pota*).[49]

13. His ears, tongue, haunches, and other parts are symmetrical according to whatever his size may be; the smell of *must* arises in him; endowed with all fine qualities, a hard fighter, with smooth hair and skin, with intoxicated eyes, handsome, showing striking development of the temporal bone (? *akṣa*), intelligent,

[47] T, p. 157, reading in b, *patita-dantacayaḥ,* which I believe is the true reading and which I have followed. It is confirmed by the epithet *saṁpatitāsyaja* (*āsyaja* = tooth) found in a verse on the same year of growth in T, p. 155.

[48] T, p. 157 (a, *°śuklaplavanaḥ sirāñgaḥ;* c, *sudhātu* for *sukhādī;* d, *yūdhādidharṣī*).

[49] T, p. 157 (d, *sphuṭa* for *smara;* many corruptions).

wrathful, a killer, evenly balanced in the bodily humors, he is a *javana* ('swift one') and has attained the third stage.[50]

14. He has hard wrinkles developed in the *saṁdāna,* etc.; subject to appropriate attacks of *must;* not inclined to sleep, with mind hostile to rival elephants; afraid of fumigation in fire; trumpeting, with a great mass of hair on his fore-limbs, fond of military action; this young elephant is a *kalyāṇa* ('fine one') and has reached the fourth stage.[51]

15. In the ears, temples, and *kṣaya* he is sticky because the wrinkles growing there are slimy with the *must*-fluid that appears in the *saṁdāna* and other places, and he comes to the best condition that is natural to him (to the prime of life); he becomes maddened on an instant, and is delighted for no special reason; heroic and all-overpowering, his temples always slimy with *must*-fluid, he is called a *yaudha* ('fighter') and has reached the fifth stage.[52]

16. The places where there are wrinkles (begin to) crack open on the surface; his sense faculties, bodily humors, and spirit are somewhat diminished; hair grows on his tusk sheaths, lip,

50 T, p. 157 (many corruptions; in a, [*ra*]*dano-* for *rasano-* which should perhaps be adopted, as 'tusk' is better than 'tongue' here; but the syllable *ra* is omitted, which leaves us uncertain).

51 T, p. 157 (a, °*valir gāḍhātiyuktonmadān;* c, *keśāḍhyeṣu talasya sandhiṣu cayo*). In d, *kalyāṇa* is the name of the elephant in this stage (see my Glossary; Zimmer misunderstands).

52 T, p. 158. The name *yaudha* (d) is read *yodha* in T, here and elsewhere. In T, p. 112, it is said that an elephant in middle life, 'up to the time when he is sixty years old,' is a *yodha.*

ears, etc., and the roots of his tusks have fallen out; then he has entered the sixth stage.[53]

17. With little (bodily) fire and gall, and much wind; having stiff limbs, and rough skin; his limbs not very mobile, with abundant phlegm and faded color, now he has reached the seventh stage.[54]

18. Constantly weeping, with phlegm ever oozing from his trunk, with skin discolored and rough, going outside the herd through fear, deserted by thoughts of love and by the growth of tusks, without heroism, with constantly closing eyes, in the eighth stage his wounds do not heal quickly, and the skin, on which the lines of hair are destroyed, shrinks greatly.[55]

19. With sunken neck, teeth dropping out, all the movements of his body slow, his tusks falling out, eating (only) soft fodder, bereft of *must*, having no rivals (i.e., incapable of rivalry), dirty (or rough) in color, his body covered with wrinkles, following in the rear of the herd, loose-limbed, who sleeps very much, he is an old elephant in the ninth stage.[56]

[53] T, p. 155 (a, *ūrdhve 'pi nir°*). On the last word cf. *muktaviṣāṇamūla*, T, p. 155, in the next verse to this.

[54] T, p. 155 (c, *'tikaṣāyavarṇaḥ;* d, *prāptaḥ karī syād atha saptamāṁ vai*).

[55] T, p. 158 (a, *kara* for *kaṭa*, which I have adopted, cf. *sravat-kapha-kara* in a verse on the same stage, T, p. 153; c, *satatāmbudigdhanayano*, 'with eyes always obscured with water,' which may be the true reading, cf. *jalapūrṇanetra* in a verse on this same stage in T, p. 155; d, *vicaraḥ praśoṣati* for *chavir apy apohati*).

[56] T, p. 158 (a, *pracalavadano yūthaparyantasevī;* b, *durgadūraślathāñgaḥ* for *nirmado*, etc.; c, *mandago mandanādaḥ* for *yūtha°*; d, corrupt in T).

20. With ears, shoulders, tail, and trunk hanging limp, body hairs fallen out, falling teeth (or tusks), wasting away in flesh and strength, with loose foot soles, and feet ('hoof-slippers') that fall off, eating little, rough-bodied, with a film over the eyes, his body covered with veins, evacuating and urinating with difficulty, thirsty, his nails eaten by multitudes of worms, he is aged and has attained the tenth stage.[57]

21. He lies (sleeps?) against a tree, not in water; his dung is mixed with froth, he urinates scantily, and eats (only) soft food; his tusks fall off, his fore-limbs are permanently sickly; such is the elephant in the stage that follows the century (the eleventh).[58]

22. He lays hold of things low down and feebly, walks with slack trunk and ears and tail swaying downward (listlessly); his fore- and hind-limbs are (alike) stiff, and he sleeps constantly when he has reached the twelfth stage.[59]

23. Thus, O king, having reached a hundred and twenty years, and having performed many kinds of work, the elephant goes to heaven.[60]

[57] T, p. 158 (with different *pāda* a, and other corruptions). In b reference is to the 'hoof-slippers' which may be cast off; see Evans, pp. 219 *infra*, 314.

[58] T, p. 156 (c, *śira* for *sthira;* other corruptions).

[59] T, p. 156.

[60] T, p. 156 (a-b, *viṅśad upasthāya*).

Here ends Chapter V, dealing with Marks of the Stages of Life.

CHAPTER VI

ON DETERMINATION OF MEASUREMENTS

1. From the eye to the *pecaka* (region of the tail root) is their length. From the toenail to the shoulder is their height. The circumference of elephants is to be measured at the place of their girth (middle).

2. The length of an elephant of the 'deer' caste just after birth is a *hasta* and a half, and he is said to be a *kara* (= *hasta*) high; his girth is two *hastas*. And five *aṅgulas* is said to be their annual growth up to the tenth year.[61]

3. But when the thirteenth year is attained, the height of the 'deer' is five *hastas*, his length seven, and his girth measure eight; respectively one and two more than these measurements have the 'slow' and 'state' (elephants).[62]

61 A *hasta* = *kara* = *aratni* = 24 *aṅgulas* = 2 *vitastis* = about 18 inches. *HA.*, IV, iii, 3 f., gives the dimensions of the best (largest, 'state') elephant at birth as 1¾ *aratnis* in height, 2¼ in length, 2½ in girth. Brehm, p. 557, gives the height of an elephant at birth as 0.9 m. = about 3 ft. or 2 *hastas*, a little more than the Hindu figures. So also Sanderson, p. 61. Brehm, *loc. cit.*, gives the growth in the first year as 0.3 m. in height; in the second year, 0.2 m.; in the third, 0.1. Our text's estimate of the annual growth seems clearly too small.

62 T, p. 165 (b, *aṣṭau ca hastāḥ pariṇāhamānam,* so read; c, *ekadvi°*, so read; *mandra°*, but elsewhere T regularly reads *manda*; d, *saṁkīrṇanāgo 'niyatapramāṇaḥ*). It is obvious that the *vitastayo* of our text as printed must be a mistake; *hasta,* not *vitasti,* must be the unit of measurement. This is confirmed not only by common sense (in terms of *vitastis,* or half-*hastas,*

4. Cows of the best, middling, and poorest types (i.e., the 'state,' 'slow,' and 'deer' castes) are respectively six, five, and four (*hastas*) high, eight, seven, and six long, and nine, eight, and seven in girth.[63]

5. As to elephants which are overstout or lean likewise, or mutilated in a member, their members (or bodies) are not measurable (in terms of the standard measurements), nor their subsidiary members, O prince.[64]

6. (Normal) measurement is always possible (only) with an elephant that has a body normal and complete in all its members, and especially a *kalyāṇa* (v, 14, one in the fourth decade, the prime of life).[65]

the measurements given would be absurdly small), but also by T (whose reading of *pāda* b in this verse we must therefore adopt) and by all other authorities on the subject. E.g., *Var. Bṛh. S.*, 67, 4, gives the same figures as our text, but in *hastas*. Śukranīti, 4, 7, 79 ff., gives the height, length, and girth of the 'state' (largest) elephant as 7, 8, and 10 *hastas*; the 'slow' and 'deer' elephants are, respectively, one and two *hastas* less each way, except that the 'state' and 'slow' have the same length. *KA.*, ii, 31 (Sh.,[1] p. 136), gives 7, 9, and 10 *aratnis* for the 'best' elephant, which is consistent with our text. Evans, p. 5, gives the average height (measured 'at the shoulder,' cf. our vs. 1 above) as 7 ft. 10½ in. (= *ca.* 6 *hastas*), the girth as 11 ft. 10 in. (= *ca.* 8 *hastas*); these accord fairly well with the Hindu figures for the 'slow' or medium-sized elephant. Evans gives no average length; from various sources I gather that it would not be far from 10½ feet or 7 *hastas*. The reading *ekadvi°* in c is found not only in T but in *Var. Bṛh. S.*, 67, 4c, which is identical with our *pāda*, and is clearly the only possible reading.

63 T, p. 165 (d, *jyeṣṭha* for *mukhya*). The female is one *hasta* less in each dimension than the male of her own class. Cf. *HA.*, IV, iii, 24, which gives the same measurements for the cow of the 'state' class.

64 T, p. 165 (d, *pratitiṣṭhanti dantinaḥ*).

65 T, p. 165.

7. The two lumps of the head are known as the bosses (*kumbha*). The part between them is known as the *vidu*. Below that is the *avagraha*. The *vāhittha* is the part below the bosses.[66]

8. Below that, the *pratimāna*. The place between these is called the *vāyu-kumbha* ('wind-boss'). But the two sides of the *vāhittha* of elephants shall be called the *vilāgas*.

9. Above the trunk tips, the *gaṇḍūṣa*. But the ridge over the eye is the *īṣikā*. The outer corner of the eye is the *niryāṇa*. But the root of the ear is the *cūlikā* ('little crest').

10. The lobe of the ear is the *picchūṣā*. The part between the shoulders is called the *proha*. But above the trunk is the *avaskāra;* above that is what is called the *pali*.

11. But the middle of the body is the *nigala* ('chain')-place. Above that is the *cikkā*. The *saṁdāna* is above the haunch and below this the *kalā*-part.[67]

12. Below the flanks are the two hindquarters to be recognized; the *niṣkośa* at (between?) flank and back; the belly after these two; (after or behind?) these two (*niṣkośas*) are the two parts named the *utkṛṣṭas* ('elevated parts').

13. But the region of the tail root shall be

[66] Vss. 7–13 have not been found in T. For the various names of parts of the body see Glossary. *HA.*, III, xxix, has a much longer and more detailed list of them (mainly in prose), which, however, gives little help to a real understanding of the terms; the Glossary quotes it whenever it is useful for our purposes.

[67] Read *kalābhāgas* in d; see Glossary.

(called) the *pecaka.* Below the throat, upon the breast, one shall recognize the *antar-maṇi,* fastened at the joint of the neck.

Here ends Chapter VI, dealing with Determination of Measurements.

CHAPTER VII

ON DETAILS OF PRICE[68]

1. Men cannot say: "So large a price is enough for them." When one price is approved by both buyer and seller, that shall be known as the best price; what is disapproved by one of the parties, as a middling price; what is disapproved by both, as a bad price. Hence determining all by many careful experts, the price of elephants shall be arrived at.

2. But one shall take at full price a noble elephant that is endowed with all the desirable qualities; at half price, one that has one eye, foot, or tusk missing, or that is deaf, or diseased; at three-quarters of the (full) price the wise man shall take one that has half an ear or the tail or the like cut off; one that has lost both tusks or the like, even though (otherwise) a fine elephant, he shall take for a quarter of the price.

3. But one shall know that (an elephant) whose left tusk is elevated (more than the right) is low (?) in value. One shall know that cows (are to be purchased) for an eighth less, or for three-quarters of the price (of bulls).

[68] The general sense of this chapter, in much greater detail, is found in T, pp. 167 ff. Zimmer's version is extraordinary in its misunderstandings.

Here ends Chapter VII, dealing with Details of Price.

CHAPTER VIII

ON MARKS OF CHARACTER

1. One shall note by their several signs (elephants that are) gods, demons, *gandharvas, yakṣas,* ogres, and men (in character), and that have the character of goblins and serpents.[69]

2. One that is beautiful, has an odor like the white water lily (*Nymphaea esculenta*), sandalwood, *Alstonia scholaris,* orange tree, lotus (*padma*), or *Cathartocarpus fistula,* whose face beams, who always retains the interest (spirit, excitement) of a *kalabha* (young elephant), who has a cry like a *koil,* he is to be honored as having the character of a god.

3. Who tries to do reprehensible things, delights overmuch in fighting, is mean natured, not in the least compassionate, has the odor of the *Vitex negundo* berry, of aloes, or of fish, a killer elephant, he has the character of a demon.

4. A *gandharva* (heavenly musician) they call him who has an odor like *Gaertnera racemosa, yūthikā* (kind of jasmine), *abja* (kind of lotus), *Rottleria tinctoria, nāga* (some plant), or yellow sandal; who is fond of song, has an excellent gait, and handsome tusks, eyes, temporal bosses, head, trunk, and trunk tips, and has few (or small) spots (on the body).

5. Radiant, impatient by nature, well-favored,

[69] T, p. 133.

of pleasant aspect, spirited, with ears erect, such an elephant has *yakṣa* (sprite) character.[70]

6. Who has the odor of a crow, ape, ass, camel, or cat, or of urine, dung, or putrefaction, who slays (other) elephants, and is violent at night, who likes (to eat) sour things, meat, and blood, is undisciplined, and shows no gratitude, of refractory behavior, such a one is an ogre in character.

7. Who loves waste places (solitude), has a smell like a corpse or like a red goat, who strays away and wanders at night, and roars deeply, who is violently enraged on the days of the moon's change, and is stupid, this elephant the teachers consider of goblin character.[71]

8. Who has an odor like those of fish, *śaivala* (a water grass), *phaṇirjaka* (kind of basil), mud, brandy, or raw flesh, who is frightened when he hears even the rumbling of the clouds, becomes enraged at night, and delights in water and dust,—he is a serpent.

9. (Like) a brahman (in character) is one who is pure, whose body is fragrant with odors like honey, milk, the rice concoction offered in sacrifice, ghee, or the flowers of the mango; who is fond of peace, and friendly to all elephants; composed, fond of bathing, right minded; so the sages declare.

10. Who is similar in odor to sandalwood,

70 T, p. 133 (d, *yakṣajātyo*).

71 This, like most of the surrounding verses, is not found in T in this form, but is reproduced in general sense, p. 138; with our c cf. T, *yo 'dhikaṁ karkaśo nāgaḥ pakṣasaṁdhiṣu nityaśaḥ*.

butter, yellow orpiment, red arsenic, or bdellium, skilled in warlike operations and fearless in battle, heroic under the fire of many sorts of weapons, he is a *kṣatriya* (warrior).

11. Who has the odor of *Pentapetes Phoenicea,* rice, sesame, *ketaka*-flowers (*Pandanus odoratissimus*), or *mālatī* (a jasmine), whose uvula is adorned (with spots), patient of pain, flesh-eating, fond of kind words, who even if angered is quickly appeased, he is (like) the *vaiśya* (artisan) caste.

12. Delighted with leavings (of food), right easily frightened, having a sour, acrid odor or that of a goat, of bones, or of a crab, wrathful, treacherous (changeable, 'easy to be parted'), cowardly, ungrateful, this base elephant is a *śūdra* (serf) in character.

13. Betraying trust, cruel, crooked-stepping in gait, who does not eat very much when in *must,* such an elephant is considered a serpent in character.

14. Those having the character of gods, *kṣatriyas, gandharvas,* and brahmans are of the nature of *sattva;* the *vaiśyas* and *śūdras,* of *rajas;* and the rest, of *tamas.*[71a]

15. The colors of elephants are fourfold: tawny, yellow, black, and white; respectively from blood mingled with gall, from blood mingled with phlegm, from gall, and from phlegm they are produced, be it known, like unto (a peacock's) tail feathers, to gold, to a cloud, and to

71a A familiar theory of Indian philosophy makes all material nature composed of these three 'strands' or 'qualities' (*guṇa*).

moonlight. But among these that black one alone exists here on earth; the other three are in the heavenly world.[72]

16. Their 'sheen' (or 'shadow,' *chāyā*) is fivefold. As a thick bank of clouds may cover the sun, so it may obliterate the (significance of the) bodily characteristics of an elephant. It is (fivefold) according to the difference of (the five) elements. The first cloud-shaped ('shadow') is produced by earth; two ('not-one,' 'more-than-one') are produced by water and fire. These three are most valuable. The two other than these (produced by air and ether) are displeasing and highly undesirable.[73]

17. Elephants having the character of a *gandharva*, serpent, or *yakṣa* are (all) military, but

[72] T, p. 132 (with many corruptions).

[73] This verse is so obscure, taken by itself, that Zimmer cannot be blamed for failing to understand it. Some help to its interpretation is given by Somadeva's *Yaśastilaka,* I, 487, l. 6, *pṛthivyaptejasām ekatamachāyāsameta.* This is an epithet addressed to an elephant. Comm.: *pṛthivī ca āpaś ca tejaś ca pṛthivyaptejāṅsi teṣāṁ madhye ekatamasya chāyā dīptis tayā sametaḥ saṁyuktaḥ he tathokta.* A long passage in T, pp. 138 f., while it does not contain our verse, makes its meaning perfectly clear. Here we are told that the bodies of elephants show a *chāyā,* 'shadow' or 'sheen,' which may be of five sorts, one derived from each of the five elements (earth, water, fire, air or wind, and 'ether,' *ākāśa* or *kha*). The first three are auspicious, the last two inauspicious. The *chāyā* has the peculiar effect of annulling the significance of the bodily marks (*lakṣaṇa, lakṣma,* see our chapters ii and iii); so that an elephant with auspicious marks, but an inauspicious *chāyā,* is dangerous and to be rejected; and *vice versa.* The comparison to a cloud which obscures the face of the sun (our a-b) is found in T, p. 139. It is absolutely clear from these parallel passages that *suvarṇa* in our c either means 'water' (a sense in which it has never been recorded), or is a corruption for another word of that meaning.

a *kṣatriya* is particularly (to be used) as a military elephant; the brahmans and gods, in sacrificial and other ritual performances; the *vaiśya* class is useful in all labors, and the others in fighting, killing, carrying merchandise, etc., slaying robbers, and annihilating tigers and other (wild beasts).

18. The sensitiveness (to stimuli of control) of elephants is known to be sevenfold according as it is extreme, shallow, deep, conformable to meaning, contrary to meaning, harsh, and perfect.[74]

19. One who shudders from afar at the goad, hook, or stick, or who trembles when (merely) touched, that elephant is extremely sensitive.[75]

20. But of shallow sensitivity is one who feels the impact of the sharp goad or hook when it merely comes in contact with his skin or touches his hair.[76]

21. Who does not feel the impact of the hook when it breaks the skin or draws blood, even until it pierces his flesh, he is one of deep sensitivity.[77]

22. Who, whether he is guided by the feet or with the goad, is sensitive to it, (but) is not frightened nor confused, that elephant the wise

[74] T, p. 206. [75] T, p. 206.

[76] T, p. 206 (a, *saṁsparśamātreṇa;* d, *vindyād uttānavedinaḥ*).

[77] T, p. 206 (b, °*vyadhanāc ca yaḥ;* c, *na ca vedayate saṁjñāṁ;* d, *jñeyo* for *sa vai*). Read °*vyadhanād* in b; *dh* and *th* are constantly confused in South Indian alphabets.

man shall know has sensitivity conformable to the meaning.[78]

23. Who goes back when he is goaded (forward), and when reined in goes (ahead), and (thus) acts contrary to the signal, he is one of contrary sensitivity.[79]

24. Without (independent) volition and (also) without sensitivity (to the driver's stimulus), one who acts contrary and shows excessive vice, he shall be considered one of harsh sensitivity.

25. Who is gentle in all his feelings (or, in all conditions), and free from vice, the best of the best, that elephant the noble sages call one of perfect sensitivity.

[78] T, p. 206.

[79] T, p. 206 (a, *vrajeti yaś;* b, *nigṛhītaś ca ga°*). Read with T in b.

Here ends Chapter VIII, dealing with Marks of Character.

CHAPTER IX

ON KINDS OF *MUST*

1. With giving of very sweet fluids, with leafy branches broken off, with various green fodders (*kabala* and *kubala*) and tender grasses, and the like food and drink as prescribed, with words pleasant to the ear, with furnishing of dust, mud, and water, and with roaming at will (freedom from restraint), an elephant's heart is delighted.[80]

2. According as an elephant attains delight, so his bodily humor reaches full development. In consequence of that, association with the cow elephant becomes desirable to him, and sporting with her unrestrainedly in the water.[81]

3. When he sports in a lake full of blooming lotuses, with spouting jets of water (from his trunk), with water that sends forth abundance of fragrant odors, enjoying the young lotus stalks, when gaily he devotes himself to pasturage, moving freely at will, from such joys, O king, arises equilibrium of the bodily humors (i.e., healthy condition) of an elephant.

4. From excess of joy, O prince, arises the *must* of elephants; but the *must* of an elephant declines when he is bereft of joy.[82]

[80] T, p. 245 (a, *patrabandhaiḥ;* b, *miśrair* for *śaṣpair*). On this chapter see my Introduction, sec. 7.

[81] T, p. 246 (*yadā yadā . . . tadā tadā . . . vṛttim . . . sahacāram iṣṭam anargalaṁ cāram apāṁ vihāram*).

[82] T, p. 246.

5. From the eyes, palate, temples, ears, navel, penis, trunk, and nipples, and from the hairs of the body, thus in many ways the *must*-fluid may flow, O king.[83]

6. Excitement, swiftness, odor, love passion, complete florescence of the body, wrath, prowess, and fearlessness are declared to be the eight excellences of *must.*[84]

7. Of old the Unborn (Brahmā) created *must,* and then deposited half of it in (all other) creatures, moving and stationary, and deposited the other half in elephants. So, intoxicated, they fight and become enraged, mastered by it.

8. Trees reach their seasonal growth at the sight of *must,* and other living things too are filled with joy at the thought of *must.*[85]

9. In a kingdom or a city if (an elephant) is in *must,* the earth will yield plentiful food. If it

83 T, p. 246. The context, and other parts of T, throw no further light on the subject. But *SY.*, comm., I, 495, ll. 3 f. from bottom, has the following: *nanu mado gaṇḍasthalāśrayatayā na vācyaḥ. yataḥ, etat* [text prints *etat* as part of the following verse, but clearly *yata etat* should be read as prose]: *tālukarṇākṣikośebhyaḥ* [text *°karaṇā°*] *cibukābhyāṁ karāt tathā, romakūpakaṭibhyaś ca prabhinnas tv aṣṭadhā gajaḥ. tatra: kaṭāt sruto bhaved dānaṁ sindhur netrasruto madaḥ, madaḥ kośasruto jñeyaḥ* [see n. 86 on vs. 9 below] *sīkaraṁ ca karasrutam* [text *kaṭa°;* clearly this refers to the 'spray' spouted from the trunk, as *pāda* b refers to the water of tears]. Cf. also our vs. v, 15, which refers to *must*-fluid from the *saṁdāna,* apparently a part of the leg, cf. *kaṭi,* 'hips,' in *SY.* as just quoted. See my Introduction, pp. 34–36.

84 T, p. 246, and *SY.*, I, 495, comm., ll. 6 f. from bottom (b, T and *SY. ratir* for *gatir,* so read; *SY. krāntatā,* T *kāntatā,* for *gandhatā* [one of these must certainly be read, and I have preferred *krāntatā* as lect. diff.]; *SY.* is corrupt in c).

85 T, p. 17 (b, *°dṛṣṭā;* c, *smaryamāṇā mad°;* d, *madānvitāḥ*).

comes first in the right temple, victory will ensue for the king who controls him; if in the left, the earth will be lovely from abundant rain; if it appears (first) in the penis, or if he discharges it from the penis and the two temples at once, the king will be glorious.[86]

10. Tearing freely at ant hills, posts, bushes, shrubs, and trees, with excited look, when he walks along straight ahead with hastened footsteps, lifting his trunk high in air, and when, at the time when his girdle is being girded on, he constantly sprays forth water (from his trunk) and bellows, entwining his right tusk (with his trunk), then he shows attainment of (that kind of) *must* which brings victory.[87]

11. When his gait stumbles for no reason, his neck droops, he is very melancholy, sighs long and gently, his trunk hangs down to the ground, his eyes close quickly, he is sleepy and his limbs are sluggish, he eats enormously and urinates frequently, that is the dangerous (kind of *must*).[88]

12. With honey-colored nails, tusks, and eyes, skin like a dark cloud, red corners of the eyes, lotus-filament spots (on the skin), quarreling with other elephants, with sporting in dust

[86] T, p. 247 (b, *jayaṁ rājño niyantuḥ śriyam;* c, *sphūrjitā;* d, *sa* for *ca*). Cf. vs. 14 below, vs. 5 above, and my Introduction, pp. 34–36.

[87] T, p. 131 (b, *vyāyād yātrānulomasphuritanadagatir . . . unnamya*).

[88] T, p. 131 (but before the preceding verse; a, *srastakarṇo 'tinīca;* c, *dhṛta* for *druta; vilomo* for *'lasāñgo*).

and water the handsome elephant king becomes 'temple-filled' (in the first stage of *must*).[89]

13. His cheeks are washed with the *must*-fluid that flows in streams; he is filled with thunder (roaring) like a rolled-up cloud; rushing forward intent on slaying even those at a distance, —(in this state) the lordly elephant is declared to be 'wet-cheeked' (in the second stage of *must*).[90]

14. With alternate oblique glances repeatedly looking to both sides, the elephant discharges *must*-fluid drop by drop from his rod-like penis. His mind is set on going backward (instead of forward as directed); he bellows loudly, with abundant (temporal) *must*-liquid; he dislikes the pillar (confinement), and is quick moving; thus he is observed to be as a result of the (third stage of *must*, called) 'down-fixation.'[91]

89 T, p. 249 (c, °*vihāri* [read °*rī*]). In this and the next six verses are described the seven stages of *must*, which are also enumerated briefly (not described) in *SY.*, I, 495, ll. 2 ff., and (with slightly varying names) in the comm. thereto, ll. 9 ff. from bottom. This first stage is there called *saṁjātatilakā*. In T, pp. 247 ff., are listed *nine* stages of *must;* of these the first is *pūrṇakaṭā* (our 1); the second is *svinnasrotomukhā* (so clearly intended, though corruptly written); the third is *jātatilakā* (which is No. 1 in *SY.*, as just stated). The remaining six agree with our Nos. 2–7, see the following verses. Zimmer wholly misses the meaning of this passage, though it should have been clear to him from Schmidt's references to *SY.* Evans, p. 176, observes that at the beginning of *must* the temples swell and become puffy, cf. my Introduction, pp. 29–30, and n. 67.

90 T, p. 249. This stage is called *ārdrakapolikā* in *SY.*, *ārdrakapolatā* in T, p. 247.

91 T, p. 250 (c, *krīyyate bhūridānaṁ;* d, '*dho* for *yo*, read thus). The stage is called *adhonibandhinī* in *SY.* text, *adhonibaddhā* in its comm. and in T, p. 247; in the context of T, p.

15. Having an odor like *Alstonia scholaris* or lotuses, always furious, with saffron-colored (temporal) *must*-fluid, when spurred on he shatters the (enemy's) hosts of chariots and horses; (then) he has attained the 'scent-going' (fourth) stage (of *must*).[92]

16. He has no desire for bed, food and drink, or kind words; by night he stands in the darkness, not to be controlled by a driver; coming upon (an army of) elephants, horses, and infantry, he will not in the least relax his intense rage; (in this condition) the noble elephant has reached (the fifth stage of *must* called) 'furious.'[93]

17. In the 'surpassed' (sixth) stage an elephant lord, mad with rage, lusts to destroy this whole universe of stationary and moving creatures; not abiding in one place (with other elephants?), he will not endure the (sound of the) bell of other (or enemy) elephants; he cannot abide his own shadow (? as if it were a rival), and is constantly bent on galloping.[94]

250, occurs the form *adhonibandhā*. See my Introduction, p. 30, n. 67.

[92] T, p. 250 (c, d, T *hanti rathāśvasaṅghān āsādito;* so read!). The stage is also called *gandhacarā* in T, p. 247; in *SY.*, *gandhacāriṇī*. The correctness of T's reading in c is indicated by a paraphrase occurring in the context: *pratyaṅgarathamātaṅgāṅś codito hanti sarvataḥ.*

[93] T, p. 250 (a, *na śayyām* for *nagaryām*, so read; *cāruṁ* for *cāṭūn*). In d read *krodhanīṁ* with v. l. (so also T). The stage is called *krodhanī* also in T, p. 247; in *SY.*, *krodhinī*.

[94] T, p. 251 (b, *abhilaṣate;* c, *sa* for first *na;* d, *bhramati* for *bhavati*). Perhaps *sa* should be read for *na* in c, with T, rendering: 'and when he is staying in the same place (with them) he will not endure,' etc.; so, indeed, Zimmer translates,

18. His accumulation of *must* reduced, when the power has departed from the intensity of his fury, his form resplendent in sport with the gentle motion of his limbs restored, having lost his jealousy of (other) elephants, in the reduction of *must,* (namely, the seventh stage known as) 'diminution,' he shines like a cloud that has discharged its accumulation of water.[95]

19. From the flowing of the *must*-fluid the bodily humors of the elephant in *must* constantly waste away, and through wasting of the humors right quickly arise multitudes of serious diseases. Because of their previous wasting away he does not attain to the development of *must* in other years. One shall cause him to appease this *must* through three months devoted to (development of) the bodily humors.[95a]

20–21. A pill of *sahā* (some plant), *Cocculus cordifolius,* horse-radish, *Sida cordifolia,* double-hemp, *Feronia elephantum, Alstonia scholaris,* sandalwood, *Nauclea cadamba, Abrus precatorius, madhuka* (a tree), *Physalis flexuosa, jīvantikā* (some plant), *śālmali* (the silk-cotton tree), *Amorphophallus campanulatus, vṛścīra*

ignoring the first *na* of the text. On bells as worn by elephants cf. *SY.*, I, 498, l. 2. The stage is also called *atikrāntā* in T, p. 247; in *SY.*, text, *ativartinī;* in its comm., *pravartikā.*

[95] T lacks this verse. The stage is however described in T, p. 251, and named *saṁbhinnamadamaryādā* T, p. 248; this latter name is also given to it in *SY.*, text; the comm. seems to call it either *saṁbhinnakapolā* or *sarvakālikā.*

[95a] The failure of *must* to occur periodically in an elephant in which it has once been established is a sign of dangerous state of health, requiring rest and medical attention; Evans, p. 176, and my Introduction, pp. 30, 38.

(said to be a kind of *Boerhavia*), *sevya* (probably the root of *Andropogon muricatus*), *ikṣura* (some plant), *kukkuṭāṇḍa* (a kind of rice), *Abrus precatorius, Physalis flexuosa,* aloes, and *Tribulus lanuginosus,* mixed with *kerī* (some tree), milk (or, milk [juice] of the *kerī* tree?) and honey, shall be given to elephants when *must* appears.

22. To augment their passion a pill is to be administered containing *koraṇḍa* (probably yellow amaranth), *mallikā* (a kind of jasmine), neem, and *Symplocos racemosa* roots, with salt, *Terminalia catappa,* and honey.

23. Lime, *suvahā* (a plant), *sahā* (a plant), long pepper, *Alstonia scholaris, vijayā* (a plant), *Terminalia catappa,* and honey, crushed in milk, this concoction when smeared on his body will bring into control a *must*-maddened noble elephant.

Here ends Chapter IX, dealing with Kinds of Must.

CHAPTER X

ON THE CATCHING OF ELEPHANTS

1. By the methods of working a trap pen and enticement with cows, and by pursuit, also by assault, and by pits, thus the catching of elephants is fivefold. But they are (increasingly) undesirable in the order named. Since elephants are destroyed thereby, both of the two last are to be avoided, and among these particularly the last.

2. The trap pen is celebrated as having a length and breadth of approximately a *kos* (*ca.* one and one-half miles). Making a fence round about it with stout trees, etc., dug into the ground, and a ditch hard to cross on the outside, he shall construct with bamboos, etc., a lane opening outward, (beginning) between two fences arranged on either side of the entrance, and gradually becoming wider (as it leads out).[96]

[96] T has none of the verses of this chapter, though it treats the same subject at great length in pp. 35 ff. All but the fourth of the five methods of capture are described by Sanderson, pp. 70 ff., as in use in modern times. Cf. also P. S. Govinda Rao, "Elephant-Catching, Ancient and Modern," *Quarterly Journal of the Mythic Society* (Bangalore), XVIII, 87–99; this article quotes largely from Sanderson and adds little of importance. The 'trap pen' (now called *kheddah*) is made essentially as here described; but the ditch is now dug *inside* the fence, which seems more natural. Our *bahir* (in b) might possibly be interpreted as compounded with *dustarām* ('a fence hard to cross to the outside'), or as applying to the fence and ditch together (both would be 'outside' the inclosed space); but T, p. 35, is unambiguous and certainly places the ditch outside the fence (*vṛtiṁ vidhāya bāhyasthaparikhāpariveṣṭitām*). See my Introduction, sec. 5, on this whole chapter. Should *sahitā* be read for *mahitā* in a? This *pāda* is apparently corrupt; cf. pp. 18–19.

3. Raising aloft and fastening a great door-panel, (sharp-) edged, at the entrance inside the trap pen, making it very stout with wooden pillars on this side and on that, he shall deposit sugar cane, etc., there, and then, rounding up the elephants with drums, etc., he shall drive the frightened animals in there (by the bamboo pathway leading to the gate), and then quickly cut the cords holding the top of the bolt (so that it shall drop and fasten the door).

4. Provided with girth fastenings, spears, bamboo (sticks), goad hooks, fetters, etc., the elephant herdsmen, after waiting there two or three days, then quickly going back into the trap pen, going near the posts, shall by artifices catch the elephants that have desirable qualities and secure them firmly there, and then shall let the herd pass outside.

5. Gently and swiftly he shall bind the elephants with rather gentle though firm bonds around the girth, at the neck, and at the hind parts, and also bind the iron foot bonds upon them on the two (hind) feet. Then having fastened very long and stout ropes in front, leading them constantly forward by first-class elephant herders, he shall cause them slowly to proceed, after loosening the fetter behind.[97]

6. But thus having caused the elephants very

[97] I.e., there is arranged a series of posts between the trap pen and the stall; in being driven home the elephant is kept always tied to one of the posts in the line, the rope tying him to one being not untied until he has been tied to the next one ahead of it.

gradually to proceed from one post to another, he shall bring them into the stall, together with other fine and trustworthy elephants.

7. Taking five or six reliable cow elephants and covering their backs (literally 'bellies') with leather coverings, elephant tenders shall hide under these skins, armed with ropes, etc. Then by striking them with their hands they shall drive the cows straight to a herd, and shall quickly tie up five or six elephants; thus the 'cow-seduction' is performed, by seducing them with cows.

8. When bathed with *varā* (some plant), aloes, the bark of trees with milky juices, *māleya* (cardamoms?), *kāleyaka* (a fragrant wood), the root of *Andropogon muricatus,* and *Symplocos racemosa,* with (mixed in) very cool water in jars, the cow is made seductive to male elephants.

9. With honey, the root of *Andropogon muricatus,* and *nata* (said to be *Tabernaemontana coronaria*), mixed with wine or with elephant's urine, such an ointment applied to the hind-quarters of the cow is an excellent seductive of male elephants. Likewise with seeds produced by the wood-apple tree, *kukkuṭāṇḍaka* (kind of rice), and *Pongamia glabra,* and with the fruit of *Grewia elastica,* mixed together, this ointment (applied to cows) will bring noble elephants into subjection.

10. He shall apply (to the cows) a subjugating ointment made of *Terminalia chebula* (or *citrina*), fragrant aloes, sugar cane, *pattra* (a

plant with fragrant leaves), *Unguis odoratus*, madder, *sahā* (as in ix, 20), *śāribā* (a creeping plant), *gośṛṅga* (said to be *Acacia arabica*), orpiment, *sitā* (used of various plants), indigo plant, *suvahā* (various plants), earth, *Nauclea cadamba*, and lotuses, with *putraṁcārin* (? some plant), *nata* (see verse 9), the hair, hoofs, and urine of goats, and similar things; with *Celosia cristata*, *māleya* (cardamoms?), collyrium, *nāgapuṣpa* (name of various plants), and honey.

11. With sounds of kettledrums, musical instruments, drums, etc., driving apart the elephants, the herders, always with a crowd (of followers), swiftly and fearlessly pursuing the greatly frightened animals, when the young elephants are lame with foot weariness, shall then quickly and cleverly catch them. This is the method of catching elephants known as 'pursuit.'

12. Separate ropes with multiple ends, the ends of which are tied into nooses, are covered with *kerī*-bark and twigs, etc., (the ropes) as large as the girth of a betel nut tree, and approximately sixty *karas* (30 yards) long, and are well buried and covered on all sides with dust in a very broad hole in the ground sunk to the depth of a *kara* (a foot and a half).

13. Placing thereon stalks of lotuses, bamboo, plantain trees, white sugar cane, etc., and tying those ropes also to a stout tree, then clever herdsmen lying in wait in concealment shall quickly catch the elephants while they are engrossed in eating, throwing them down by draw-

ing the ropes taut. This is the kind of catching known as 'assault.'

14. Making a hole four *hastas* (six feet) deep, two *hastas* broad, and five *hastas* long, concealed with bamboo shoots and grass mats, covering it over with earth, and bestrewing it with food, the attendants shall cause the young elephants to fall into it and then bind them firmly. This is the method of catching known as the 'pit.'

Here ends Chapter X, dealing with the Catching of Elephants.

CHAPTER XI

ON THE KEEPING OF ELEPHANTS AND THEIR DAILY AND SEASONAL REGIMEN

1. Forest elephants who dwelt there happily and by the power of fate have been brought to town in bonds, afflicted by harsh, bitter, cruel words, by excessive grief, fear, bewilderment, bondage, etc., and by sufferings of mind and body, are quite unable for long to sustain life, when from their own herds they have come into the control of men.

2. On mountain ridges, in the water of mountain torrents, in lotus pools and rivers, ever remembering how he played freely with elephant cows in the midst of the jungle, an elephant, dejected and beset with manifold troubles, is unwilling to eat stalks of white sugar cane, etc., though repeatedly placed before him.

3. Thinking on the pleasure he formerly experienced in the jungles, constantly brooding, restraining the flapping of his ears and (the motion of) his tail, becoming excessively haggard from the hardships of the town, in a few days the newly caught elephant comes to death.[98]

4. The elephant's two eyes bulge out, and he suffers inflammation in the anus, navel, and fore and hind quarters; he does not eat nor rest (or

[98] T, p. 53 (c, *grāmyavyathāparigato 'pi tataḥ kṛśimnā*).

enjoy himself), nor does he recognize signs given him (by a driver); like a king exiled from his kingdom, he is a prey to anxiety and longing (or is freely a prey to anxiety).[99]

5. The (cosmic) egg was characterized by heat, and elephants were born from the egg; being tormented with heat from birth, they are gratified by being deluged with cool water, by dust and mud and the like. Therefore, King of Añga, just water is the life of elephants. Hence one shall tend elephants with water freely; for from that their bodily humors become calm.

6. One shall sprinkle elephants brought from the forest with cold water, and give them to drink of it, and let them bathe in water up to the ears in the morning, to counteract their weariness, etc., and likewise at the close of day freely; so (after this) one shall tie them up (for the night). Afterward one shall also have them sprinkled and anointed with 'hundred-fold purified' ghee.

7. When an elephant has bathed, one shall give him rice porridge, mixed with beans, broth, and butter, and give him sugared drinks, and stalks of white sugar cane which he loves.

8. Inspection of bed and water (?), exercise, suitable medicine, rubbing down with powder, returning to the stall post, food accompanied by ghee and jaggery, giving of pastry, bathing, drinking water, and in the afternoon food accompanied by a quarter (of the amount) of ses-

[99] T, p. 53 (the two halves separated).

ame oil, and medicine, and then sleep—this is the daily routine of elephants, step by step.[100]

9. (One shall feed them) stalks and bulbs of lotuses (*padma*) and (other) water lilies (*utpala*), plantains (bananas), edible lotus roots, *Trapa bispinosa, dūrvā* grass, *udumbara* (kind of fig), *Boswellia thurifera,* sugar cane, spikenard, banyan (leaves or fruits), bamboos, etc. And the sprouts (or buds) and fruits of (two kinds of) figs (*Ficus infectoria* and *F. religiosa*), and wood-apples are always to be given to elephants, King of Aṅga, to ease their distress; also other sweet delicacies which they love.

10. Those that are tearful-eyed and haggard, the young calves, those worn with bearing burdens, the bilious and thin-limbed, those that are tired with constant traveling, the aged, those that have no desire for the cows, and that show wasting of blood and flesh and diminution of *must,* the helpless, and such others as are stiff-limbed—for (all) these ghee is a salutary thing that is most applicable; so declares the Lord of Kaliṅga.[101]

100 T, p. 214 (a, *śayyālaṇḍāvalokaṁ . . . yūthamuṣṭiṁ;* b, °*praveśaṁ*; c, *para* for *pada*). I take *śayyātoya*° in a as one word and assume that the 'inspection' is to be performed by the attendants, as in the case of *pūladānam* in b. T's reading would seem to mean 'inspection of bed and dung' or 'of bed-dung,' i.e., of excrement dropped by the elephant during the night, the inspection of which, as well as of the 'bed,' has medical importance; see Evans, p. 35. Could *toya* similarly refer to urine?

101 Occurs twice in T, p. 63 and p. 223, both times corruptly. b, *tanvagryāḥ* (both times); c, *stabdhagātrāparā* (once) or °*virā* (once; perhaps °*gātrāparāḥ* is the true reading; *pare* seems out of place); d, *sātmyatamam* (both times; perhaps

11. Of (raw) rice grits a *kuḍuba* (less than ¼ pint), mixed with grass, is to be given to elephants (when newly caught); and one shall increase this measure one *kuḍuba* each (day) until it amounts to an *āḍhaka* (16 *k.* = *ca.* 3 pints). And thus he shall increase day by day the portion of boiled rice also; and in just the same way he shall cause to be administered in proper fashion the other food preparations that are prescribed.

12. He shall always cause wheat and barley to be given, boiled and mixed with jaggery and butter, in the same way, accompanied by rice grits alone, or else mixed with cow's urine, increasing that also by a *kuḍuba* each day in turn as above until it reaches an *āḍhaka,* flavored with cardamoms, the three spices (black and long pepper and dry ginger), asafoetida, cumin seed, *yuga* (an uncertain drug or medicinal plant), cumin seed (of another variety), and the fruit of *Embelia ribes* (a vermifuge).

13. In the morning there shall be (administered) sesame oil with grass, half an *āḍhaka* (*ca.* 1½ pints) in measure (for an elephant) in the best stage (prime) of life; in middling periods of life one-quarter less than that; in the worst periods one-third less than that is prescribed. This is effective for strength, *must,* and swiftness, and cures illness.[102]

read so, 'most wholesome'). I have no idea who is meant by *kaliṅgeśvaraḥ* (on which T agrees both times).

[102] Twice in T, p. 59 and p. 225. c, T (once) *madhye* for *tadvat.* According to *KA.*, Bk. II, chap. 31 (Sh.,[1] p. 136, ll.

14. But of medicine for sickness, for one in a middling period of life (as in preceding verse) 20 *palas* (*ca.* one kilogram) every day shall be the measure, to be measured out with careful determination; while 2 *prasthas* (= one-half *āḍhaka,* 1½ pints) of ghee shall be the daily measure; these measures are to be increased or diminished according to the (varying) strength (of the animal).[103]

15. A sesame-and-rice gruel compounded with sour milk and oil cake, together with jaggery, shall be given to an elephant to make him strong; and drinking water too.

16. For each cubit (*hasta,* 18 inches, *sc.*, of his height or length, one shall give him) a 'load' (*ca.* 100 kilograms) of grass; 4 *āḍhakas* (*ca.* 6 quarts) of rice grits are prescribed; oil, 8 *kuḍubas* (one-half *āḍhaka,* 1½ pints); of salt there shall be (given) 10 *palas* (one-half kilogram), and (the same) of jaggery.[104]

17. For sweetmeats, an *āḍhaka* (1½ quarts) of meal is prescribed, O king, compounded of the fruit of *Embelia ribes, akṣība* (probably *Hyperanthera moringa*), *kulmāṣa* (a sour gruel, or a cheap grain), beans, and wheat.

18. His nails do not split, the sole of his foot does not waste away, his feet do not burn on the road, the hairs grow, and the good aspect (of his

15 ff.), the best period of life is forty years; at thirty the elephant is middling, at twenty-five inferior (*avaraḥ*). But cf. our v, 1.

[103] That is, more shall be given to an animal in the prime of life, less to a very old or young one.

[104] T, p. 225 (d, *guḍasya*).

feet; or, less likely, 'his eyesight') is not destroyed, if his feet are constantly bathed.[105]

19. Bathing of the body overcomes skin disease, wounds due to binding, weapons, and cuts, dryness, stiffness of the limbs, etc.; it destroys disorders due to cold wind, makes the thighs and the (whole) body supple, strengthens quickly, and produces gentleness, good character, strength, and comfort.[106]

20. Elephants constantly have good eyesight if (their eyes) are anointed with ghee all the time; diseases of the eye do not arise, and their sight remains strong.[107]

21. By anointing the tusks constantly their tusks are made stout, with firm sockets, smooth, immune to perforation, and capable of tusk fights.[108]

22. Salt eaten plentifully causes purification of the bladder, removes worms, cures (diseases caused by) wind, destroys illness, quickly improves want of appetite, and produces moisture in elephants; it is like nectar in bringing about the state of good digestion.[109]

23. In the morning meal salt should be

105 Twice in T, p. 63 and p. 230. Both times *nakhāsthalaṁ* in a.

106 Twice in T, p. 64 and p. 230. In a, T once reads *ja* for *bhid* (with v. l. quoted in n. 1), the second time *jit*. In b it reads once *saṁ* for *jit*.

107 Twice in T, p. 64 and p. 230 (b, once *yojitā*[*ḥ*] and once *dantinaḥ* for *nityaśaḥ*; d, *sthira-*, both times; *jāyate* for *dantinām*, both times).

108 Twice in T, p. 64 and p. 230 (b, once *vyādhi* for *vyadha*).

109 Twice in T, p. 65 and p. 231 (a, twice *janayati* for *jayati ca*, so read).

avoided, as it increases disaffections; but in the afternoon salt is a stimulant to digestion, and removes disaffections.[110]

24. Salutary in this world is ghee with sugar and milk, mixed in foods that are not too hot. And the sage says that cool milk in the drink diet is highly valued in the case of elephants.[111]

25. The early morning sun, and the crescent moon (are good for elephants?); also delicious rice, and wheat grains that are not spoiled by worms. Food prepared with those ingredients well sodden, with no little meat, is to be fed to an elephant by those who know elephant-lore.[112]

26. But to *kalyāṇas* (elephants in the fourth decade, the prime of life) one shall give meal compounded of the three spices, the two *Curcumas* (*C. longa* and *aromatica*), *Costus*, caraway, *Achyranthes aspera,* the two *karañjas* (*Pongamia glabra*), garlic, *vacā* (an aromatic root), *Clypea hernandifolia, rāmaṭha,* white mustard, soapberry seeds, the root of *Plumbago zeylanica,* pungent (*paṭu,* but this may be a noun, 'salt,' or name of various plants) *varā* (some plant), iron filings (?), vermifuge, and *nyagrodhī;* this meal, mixed with sesame oil, is efficacious on awakening.[113]

110 Twice in T, p. 65 and p. 231 (a, twice *bhukte*).

111 T, p. 216 (a, *sahitaṁ;* d, *śaradiṣu* for *karaṭiṣu*).

112 T, p. 217 (a, *puṣṭo yavaḥ* for *bālātapaḥ;* b, *krimidūṣitaṁ na*). The meaning of a is dubious. Possibly *puṣṭo yavaḥ* is to be read with T, and *śaśikalāruciraś* as a compound: 'First-class barley, and rice white-gleaming as a digit of the moon, and wheat-kernels,' etc.

113 T, p. 241 (b, *pratyakparṇī-kara°;* c, *lohadaṇḍakrimi°;* d, *cūrṇaṁ pratinayasamaye tailayuktaṁ praśastam*).

27. (The green fodder called) *kabala*, accompanied by cardamoms, *vacā* (an aromatic root), garlic, salt, dry ginger, white mustard, asafoetida, pepper, and vermifuge, stirred in oil, shall be given to an elephant when he awakes from sleep, to quiet his phlegm and wind.[114]

28. In the morning jaggery with butter is prescribed in the autumn, and in summer a rice porridge; in the evening the same with salt; but at other (seasons), contrary to that rule, (rice porridge) with sesame oil. He shall cause *kulmāṣa* (see verse 17) with jaggery and with rice porridge to be given to elephants, producing heat (or vigor), strength, and (digestive) fire in them; and also other powders mixed with jaggery.

29. In the winter season, when the rays of the sun are frosty cold, he eats shrubs, creepers, and tendrils in which vigor and sap are developed; with eagerness for play in mud, dust, and water, the elephant generally manifests an accumulation of phlegm rather (than the other humors).

30. With fodder produced from (plants) which appear in the country growing in jungly ground his body shall be maintained. Salutary is the bathing of elephants on the head and feet, and anointing them with a film of black powder mixed with oil.

31. Excellent is the anointing of elephants on the head with a black powder of (blood of?) muskrats,[115] *citraka* (some plant), *Physalis*

114 T, p. 241, corruptly.

115 Cf. Kauṭilīya, Bk. XII, chap. 4 (Sh.,[1] p. 388, l. 4; wrong reference in Schmidt, *s.v. cucundarī*).

flexuosa, cotton, *Croton polyandrum, Curcuma longa,* and *varā* (some plant), mixed with sesame seeds and oil.

32. A stall covered and provided with a fire; tepid brandy and rice liquor spiced with the three spices and pungent substances; in the evening food mixed with sour milk and broth; covering with blankets; measured indulgence in sugar cane, constant use of (the green fodders called) *kabala* and *kuvala,* regular exercise, abandonment of water play, and avoidance of grass—this shall be the regimen for the cold season.[116]

33. Daily lingering in fragrant parks, rice porridge with wheat, food mixed with sour milk and oil, little burden bearing and road work (travel), salutary dipping of the elephants at will into rivers, etc.,—this is the regimen for the spring. The foods to be eaten then are *Sida cordifolia, kalāya* (a kind of pulse), and chickpeas.[117]

34. No taking to the road (travel), active pouring on the head of bags full of water, and anointing the head morning, noon, and night with the butter called 'hundred-fold purified'; contact with the rays of the moon, tending with grits mixed with jaggery and butter, a cool stall, play in water and mud—this is the regimen for the summer.[118]

116 T, p. 218 (b, *mandoṣṇaṁ*). In a, *prasannā* is to be taken as a noun, a kind of liquor; cf. *HA.*, IV, xv, 44. On the verse as a whole cf. *HA.*, IV, xv, 39.

117 T, p. 218 (corruptly).

118 An altered and corrupt form of this in T, p. 218; cf. also *HA.*, p. 618 (prose, IV, vi), and IV, xv, 59 ff.

35. Water from a well, grass growing on dry land, a place free from mud, production of smoke in the stall to rid it of flies and gnats, means of strengthening the bladder, porridge mixed with jungle-deer soup and oil, and broth that increases the belly fire (of digestion),—this is the regimen for the rainy season.[119]

36. Rice with abundant blossoms and plentiful sap up to the neck, a cool place, beans to be administered with their flowers along with *māṣa* (another bean), and *makuṣṭa* (another bean, *Phaseolus aconitifolius*) and the like, and wheat; bathing in water every day, and in the evening the same; food with boiled milk enriched with ghee and (meat) broth—this is the regimen for autumn.[120]

37. Cultivation of (exposure to) the morning sun, (broth of the flesh of) fierce water and marsh animals (as food), and *veśavāra* (a strong spicy condiment); and experts approve also a single plunge of elephants in deep water; and anointing with oil on the head is to be performed constantly—this is the regimen for winter. Thus in turn the sages have set forth the tending of elephants in all seasons.[121]

38. Timid, with broken nails, of unstable

119 Very similar verses in T, p. 216 and p. 219; cf. also *HA.*, IV, xv, 87, 90.

120 T, p. 219 (a, *bhṛta* for *bhṛśa; c, pratinaye sāye;* d, *svinnaṁ kṣīra° tathā ghṛtarasakṣaudrāplutāvāyavaḥ*). Cf. also *HA.*, IV, xv, 99 ff.

121 The first half of this verse in T, p. 215 (b, *tad iha ca* for *sakṛd api;* other corruptions). A somewhat similar verse T, p. 219. Cf. also *HA.*, IV, xv, 29, 30. On b, cf. *HA.*, IV, xv, 28, *sakṛd evāvagāhaś ca.*

mind, of contrary sensitivity, whose great foot trembles, of rough skin, not enduring, stiff, with little hair, and plaintive, with visible sinews and veins, with rough tusks, quick, with ugly eyes, stupid, and undependable in work, such an elephant is declared to be (suffering from disease) of the wind.[122]

39. Angry, with weak eyes, with thin trunk, tusks, skin, nails, ears, hair, neck, fore parts, hind parts, and feet; much-eating, red-eyed, feeble, very false, loving shade, he dislikes heat, and discharges *must*-fluid with little delay; of 'shallow' sensitivity; he wastes away seriously, and tends to a wasted state: such an elephant is afflicted with (disease of the) gall, and is without much beauty.[123]

40. Yellow-eyed, with very large toes (or trunk tip), trunk, head, frontal bosses, etc., not very amiable, (but) he is not oversusceptible to anger, of slow (bodily) fire (of digestion), fearless, of 'deep' sensitivity, steadfast, imperturbable, taking hold well, free from instability, fond of the lute and other (instrumental music) and of song, with stout, smooth tusks, very slow-moving, lustful—such an elephant is afflicted with (disease of the) phlegm.[124]

41. With honey (-colored) eyes and tusks, regular and well-formed limbs, heroic, not lean,

[122] T, p. 134 (a, *cara* for *calat;* b, *stabdho 'lpa°;* c, *racanaḥ* for *radanaḥ*).

[123] T, p. 134 (a, *nirmaṇḍi°* with v. l.; d, *nātiśobhām*—perhaps the correct reading, as object of *śrayati*).

[124] T, p. 135 (c, *subhago* for *suharo;* d, *'bhinandyajavanaḥ* [MS *°vinaḥ*] for *'timandagamanaḥ*).

of abundant *must*-fluid, of regular (digestive) fire, of conformable sensitivity, with well-arched backbone, this elephant is even (balanced, as to the three bodily humors, i.e., healthy) in nature.[125]

42. The deviation (departure from norm, disaffection, morbidity) of those afflicted with faults, the good and bad fruits (results) of their (bodily) marks—these even sages do not know rightly; how then (ordinary) men?[126]

43. For elephants forest dwelling only is ordained (by nature); from not getting this, and from eating and drinking unwholesome and unpleasant things, from food that is unsuitable, indigestible, etc., from sleeping in improper places on account of journeys, etc., disturbances of the wind and other bodily humors are provoked, and quickly cause diseases to arise in the body and mind.

44. From constant flow of urine the penis of the elephant in *must* is irritated. (The treatment is) constant bathing with a *pala* (a very small measure) of (solution of) red chalk, mixed with butter.[127]

45–46. Sucking, shutting the eyes, sniffing of the ground, of trees, of the sky (air) and the wind, sluggishness, dryness of the inside of the mouth, quivering of the ear tips, listlessness, constant yawning, moodiness, and fumbling in the dust, redness of urine, and redness of the

[125] A similar verse T, p. 135. [126] T, p. 120.

[127] Twice in T, p. 64 and p. 230 (d, once *tataḥ* for *sadā*). Cf. *HA.*, IV, xv, 26, 45.

eyes—these are the signs of an elephant that is tormented with thirst.[128]

47. All wounds of elephants generally heal with (application of) water alone. Their hunger, thirst, and other (natural troubles) are removed by favor of the Lotus-born (Brahmā).

48. Most commonly diseases of elephants are caused by worms, King of Aṅga. Therefore anthelmintics are constantly to be given to elephants.

49. The 'king of powders,' eight parts of asafoetida and twenty-seven parts of bdellium, this and similar powders he shall administer, and oil and ghee.

50. The (elephant) fever known as *pākala* the wise man shall note by the same symptoms which are described of human fever; hence its treatment is the same.

51. Whatsoever are the (medical) differences between elephants and men, they are all set forth in dealing with those afflicted with disorders, etc. Therefore experts should apply just the same treatment in their case as for men, having determined the specific nature of the disease.

128 T, p. 205.

Here ends Chapter XI, dealing with the Keeping of Elephants, and their Daily and Seasonal Regimen.

CHAPTER XII

ON THE QUALITIES OF ELEPHANT DRIVERS, ETC.

1. The supervisor of elephants should be intelligent, kinglike, righteous, devoted to his lord, pure, true to his undertakings, free from vice, controlling his senses, well behaved, vigorous, tried by practice, delighting in kind words, his science learned from a good teacher, clever, firm, affording protection, renowned for curing disease (in elephants), fearless, all knowing.[129]

2. Skilled in methods of training (elephants), knowing the various methods of wielding hooks and sticks, well informed as to strength (of elephants) and as to places and times (for the various elements of their regimen), skilful in dealing with the *must*-fluid, dexterous in the ways of mounting and dismounting, calm, knowing the stages of (an elephant's) life and his vulnerable points,—so the sages describe a king's elephant manager.[130]

3. An elephant driver may be of three sorts: 'coming-up-to-the-scratch,' ingenious, and powerful. Among these the first acts simply according to the qualities of his elephant; the middling one, according to those of himself and the elephant both; the poorest depends upon his own wit, strength, and powers alone. Thus elephant guards are to be conceived as best, middling,

[129] Similar sense T, p. 181. [130] T, p. 182.

and poorest. Among these the last is to be avoided.[131]

4. Hard for foes to conquer is an elephant driver who is clever at the ways of mounting and dismounting from elephants, at sitting by means of seats on the shoulders and the hind parts, at driving them with the voice, feet, and hook, at the methods of marching and running them in the streets and in the country, at turning them back and stopping them, and at fighting with hostile elephants.[132]

5. Controlling the rogues, speedily bringing on *must* in those in whom it is not accomplished, making elephants that have no swiftness to acquire impetuosity, making those that have no desire to strike skilled in striking, clever at mounting elephants, (such a driver is) beloved of the king and people.[133]

6. Elephants are of three kinds; there are three directions (ways of driving them), three styles of gait, three distinct methods of sitting in front and also five behind, six different ways of wielding the hook, while the differences relating to gait are fivefold; mounting is done in eight ways, and the methods of dismounting are declared to be ten.[134]

7. The threefold castes of elephants, distinguished as 'state,' 'slow,' and 'deer,' have been

131 The same sense T, p. 183. Zimmer misunderstands the verse completely.

132 T, p. 182 (b, *paścātyaiḥ saha cod°;* d, *rājan* for *yantā*).

133 T, p. 182 (a, *vaśīkurvan;* b, *āntarabhasān;* c, *āhartuṁ, gāḍhanipuṇān*).

134 T, p. 183.

set forth herein above (i, 26–30). Now first the directions, and then the styles of gait and the rest in order will be explained.

8. The directions are declared to be driving by words, by the feet, and by the hook, as I have said. But among these the method of driving by words is threefold. Of these the first shall be known as 'caressing' (with words), in such a way as not to produce fear, anger, or other (unpleasant reaction in the elephant). Then the second is 'indication' (neutral speech); but the third know as 'abuse.'[135]

9. With words suggesting the undertaking of an action, in Sanskrit, Prakrit, or the dialect of any particular province, he shall teach an elephant to know what he is to do. The double (repeated) sound *hum* means to sit down. To make him take hold of something quickly he shall say 'Take, take!'; and to make him lift it with his trunk, 'Up, up!'

10. 'Stop, stop!' means to stop; 'Come, come!' means to come; 'Go, go!' to go; with these and similar words he shall give instructions to him.

11. Inserting both his feet in the neck chain, with strokes of his firmly implanted toes and heels, and with his thighs tightly binding, with firm mind, fixed securely like a post, the driver shall take a good hold of the hook in his right hand, and with the other hand likewise a staff of reed or the like, and with concentrated mind

[135] Not in T, but the general sense p. 185 (the terms *upalālanā, prajñāpanā,* and *saṁtarjanā* are there used). I suspect a corruption at the end of a.

shall gently make the elephant go (by signs made with his feet).

12. To make him go forward he shall press hard with the two great toes; to make him lift his face, (the great toes) are turned up, and to bring his face down they are turned down. In guiding an elephant to the right side he shall poke him with the left great toe, and with the other to the other side; and to draw the elephant back (check him), the clever (driver) shall poke him hard with his two heels.[136]

13. But the gaits (of an elephant) are threefold, distinguished as slow and fast (walking) and running. They are also classified in five ways as forward, backward, circular, crosswise, and revolving (pivoting).[137]

14. Between the backbone and the neck there is a hump; there are three ways of sitting in front of it, arranged in order as best, middling, and worst.

15. One foot is stretched out; another has the knee bent; and one method of sitting, the last (of the three), is to be recognized by the wise as kneeling (literally, 'relating to the knees').[138]

[136] The general sense in T, p. 185.

[137] T contains neither this verse nor any close parallel, so far as I can discover. With the three rates of speed may be compared the data given by Brehm, pp. 547 f.: an elephant's normal walk is 4–6 km. per hour; this can be accelerated to about double speed for 15–20 km.; and if greatly excited an elephant can even run as fast as 20–25 km. per hour, but cannot keep it up for as long as an hour.

[138] T, p. 193 (d, *eka-jānupadaṁ*). On this page T has a good deal of material bearing on this and the next verse, but it is so confused, and partially corrupt, that it does not help in the in-

16. Having the feet stretched out on both sides of the (elephant's) backbone, with both knees bent down, this shall be known as the manner of sitting (behind) with bent-down knees. But that with (the foot) raised aloft is the elevated (manner, the second). One (manner, the third) is with knees aloft. Another (the fourth) is the bent (crouching) 'tortoise-sitting.' The (fifth) manner with both knees bent close together shall be known by the name of the 'frog.'

17. Perceiving that the world was wholly oppressed by the elephants with their vast bodies, spirit, and might, and with their fierce power, at the request of Skanda Brahmā in compassion created a certain Spirit ('man'); he, having eyes red-cornered with wrath, shone with crest rising in the form of a tusk, and with hands marked (*añk-ita*) with (the image of) *kuśa*-grass; therefore he was called *Añkuśa* ('hook').[139]

18. There are just four elephant hooks recognized by the noble sages, resembling (respectively) a thunderbolt, half-moon, nail, and *keteka* thorn. This Spirit entered into them and took his station there, in order to control forever the *must*-maddened and extremely roguish elephants.[140]

terpretation. My translation differs considerably from Zimmer's, but there are quite a number of points obscure to me. I would point out, however, that the (masculine) words in a-b of this verse (supported by T) must agree with *pādaḥ*, not with *āsanam.*

139 The general sense in T, p. 187.

140 The general sense T, p. 188, and again p. 190.

19. The two *vitānas*, the *vidu*, the neck, the two outer corners of the eyes, and the two temporal bosses—and on the *avagraha*,—the application of the hook shall be known as sixfold.[141]

20. Now to go forward a pricking is to be made with it (the hook) touching the face in front; to guide (the elephant) backward, a downward scratch there; to make him rise, an upward scratch; and to guide the elephant down, a downward pressure; but to guide him to the left, a pricking on the right side; and so there are other ways of wielding the hook according to circumstances.

21. Barely touching, pressure, hard striking, pressure after brandishing (the hook), pulling back after brandishing, and again violent swinging around after brandishing (are the six ways of wielding). Of these, the first is declared to involve sinking in to the extent of half a finger's breadth. But 'pressure' and the rest each (in turn) involve half a finger's breadth more (of penetration). Thus the series of pricks with the hook is described.

22. Grinding thoroughly together flowers of *Bassia latifolia*, honey, black (? this may be a noun, name of another plant) *vacā* (an aromatic root), *Physalis flexuosa*, wood-apples, onions, and pepper shrub, if this mixture with cow's

141 T, p. 187 (a, *viduṁ; c, tu* for *ca;* d, *ṣaḍbhedāṁ sṛṇicāraṇām*). The forms ending in -*e* in a-b must apparently be nominatives dual (cf. *vidur*, and apparently *grīvā*); but *avagrahe* must be locative singular as this is not a dual part, and is of masculine gender.

urine is smeared on the tip of the hook, an elephant goaded therewith becomes controllable.

23. A powder made of the *kośātakī* (plant), *kṣāra* (caustic alkali, or sugar?), the three spices, yellow arsenic, white mustard, and (nuts of) *Semecarpus anacardium,* mixed with the kind of salt called 'pungent' and the fruit of *Embelia ribes,*—when this is smeared on the hook, they declare that it controls an elephant.

24. An ointment made of the heads and veins (?) of centipedes and lizards, gall of horses, hair of deer, snake-skins, and scorpions, if smeared upon hooks, robs elephants of their pride.

25. On the two flanks, the two *niṣkośas,* and at the root of the tail, thus they recognize the fivefold application of the stick.[142]

26. By the two ears, the four legs, the face (trunk?), and by jumping up—thus there are eight ways of mounting an elephant. Mounting by men running after him from behind is jumping up.

27. By the tail, the four legs, the face (trunk?), the two sides, and the two ears—thus the wise declare that there are ten ways of dismounting from an elephant.

28. Thus the sage Pālakāpya expounded the story of elephants to Romapāda; and the king, his soul agitated with delight, honoring the sage with water for the feet and other marks of respect, ruled for long over the earth, keenly

142 T, p. 193 (a, *pakṣayor;* d, *vidyāt pañca° budhaḥ*).

(*alam*) striving to protect it mercifully, watchfully occupied in guarding the whole world, having subdued all hostile kings.

29. '*Roma*' is explained by ancient seers as a name for lotus; because his foot (*pāda*) was marked with that, he was called Roma-pāda.[143]

30. Because he protected (*pāla-*) the elephant herd, and because he was *Kāpya* by gentile name (by clan), therefore that Pāla-kāpya was given this name by the heavenly voice (i, 18).[144]

31. From the deep sea of the elephant-science expounded by (that) noble sage, this small part, The Elephant-Sport, has been extracted by me; may it be corrected (or tested, examined) by the wise.

143 T, p. 1.

144 The first half is *HA.*, I, i, 155c-d; also in T (p. 6), which reproduces this whole passage of *HA.* In b, T reads *kāpya-gotreṇa yena ca; HA.* reads *eva ca* for *cety ataḥ.*

Here ends Chapter XII, dealing with the Qualities of Elephant Drivers and Other Matters.

END OF THE ELEPHANT–SPORT.

GLOSSARY

This Glossary is primarily a list of words occurring in the *Mātaṅga-līlā* in meanings not hitherto recorded in lexicons. This statement must, however, be qualified as follows:

(a) A few words not found in *ML.*, but found in T or elsewhere, are included.

(b) Some words contained in the lexicons are included, because of their importance or rarity.

The lexicons chiefly used are the major *St. Petersburg Lexicon* (abbreviated *BR.*), the minor *St. Petersburg Lexicon* (*pw.*), and Schmidt's *Nachträge zu Boehtlingk Sanskrit Wörterbuch* (Schmidt). I have also consulted Apte's *Practical Sanskrit-English Dictionary* (Apte); reference is made to this only when it records meanings of words which are not found in the other dictionaries named.

'*L.*' denotes collectively the Hindu lexicons quoted in our western dictionaries.

Other abbreviations are explained in my Bibliography.

° This sign, the degree sign, is prefixed to words not defined, in the senses used here, in *BR.*, *pw.*, or Schmidt.

* This sign, the asterisk, is prefixed to words recorded in these senses only in Hindu lexicons (*L.*), but not previously noted in literature.

'Footnotes,' when referred to in this Glossary, denote the footnotes to the *Translation*, not to the Introduction, unless the latter is specifically indicated.

akṣa, organ of sense (*vide BR.* Vol. v, sp. 945, *s.v.* 3 *akṣa*), see *saṁyatākṣa*.

**akṣība*, either a plant (*Hyperanthera moringa, L.*), or sea salt (see Schmidt), xi, 17.

°*agra-karṇa*, tip-ear, top of the ear, v, 7.

°*añkūrita*, blotched (= *añkurita*, see Schmidt), v, 2.

**añguli*, the 'finger' (prong or extension) at the top of the end of an elephant's trunk, iii, 1. Only *L.* in *BR.*, though not marked with asterisk in *pw.* Apparently synonym of *gaṇḍūṣa*, *q.v.*

°*añghri*, quarter (= *pāda*), vii, 2; leg, xii, 26 (where the definition 'foot' does not fit; elephants are mounted by their four *añghris*).

°*atikrāntā*, 'passed by (the climax),' n. of the sixth stage of *must*, ix, 17. In Somadeva's *Yaśastilaka* called *ativartinī* (see Schmidt); in the comm. thereto called *pravartikā* (not in Schmidt).

°*atyartha-vedana*, having extreme sensitivity, viii, 19 (defined).

°*adhonibandha*, 'down-fixation,' n. of the third stage of *must*, ix, 14, where *'dhonibandhāt* must be read for *yo 'nibandhāt* of our edition. This stage is called *adhonibandhinī* in Somadeva's *Yaśastilaka* (see Schmidt), and *adhonibaddhā* (not in Schmidt) in the comm. thereto.

°*adhva-karman*, 'road work,' travel, xi, 10, 33.

°*anugata*, x, 11, and *anugati*, x, 1, 'pursuit,' a method of catching elephants.

°*antarmaṇi*, a growth in the neck of an elephant (cf. *maṇi* and *kaṇṭhamaṇi*, 'thyroid cartilage,' *L.*), vi, 13. Cf. *HA.*, p. 527, l. 19, *urasi grīvāsaṁdhyāśrito 'ntarmaṇiḥ*.

°*anvartha-vedana*, viii, 22, and *-vedin*, i, 27; xi, 41, having sensitivity conformable to the meaning (of the stimulus); defined, viii, 22.

apara, m. (dual *aparau;* contrast Schmidt), hind quarter (of an elephant), vi, 12. Dual dvandva, *gātrāpara*, fore and hind quarters, v, 22; xi, 4. As adj. with *añga*, *ibid.* (*aparāṇi añgāni*, 'hind quarters'), iv, 3.

°*apākīla?* (if text is correct), cheap, poor, of little value, vii, 3 (v. l. *dvipaṁ hīnaṁ;* perhaps read something like *apahīnaṁ?*).

°*arāga*, m., listlessness, indifference, xi, 45.

°*avakarṣaṇa*, n., pulling or scratching down, xii, 20.

avagraha, a part of the elephant's face, v, 6 (becomes prominent in the fifth year), vi, 7 (below the *vidu*), xii, 19 (the hook is applied to it). Apparently the flat, level place in the middle of the elephant's forehead which joins the lower parts of the two *kumbhas*, and is thus immediately below the *vidu*, *q.v.*

°*avatāra*, dismounting (from an elephant), xii, 6; the bringing to pass, accomplishment, xi, 22. (In the former sense derived from the simple verb *ava-tṛ;* in the latter, from the causative of the same.)

avapāta, 'pit,' a method of catching elephants, x, 1, 14.

°*avaskāra*, m., a part of the elephant's face, v, 8, 12; vi, 10 (here defined as above the trunk). Apparently the swelling or protuberance in the middle of the face just between the eyes, in the center of the upper extension of the trunk.

°*avāgra*, having the head lower (than the withers), see footnote 20. Cf. Apte, *s.v.*

°*ākarṣaṇa*, drawing in or back, checking (of an elephant), xii, 12. The same in T, p. 185.

āpāta, 'assault,' a method of catching elephants, x, 1, 13.

āmīlita, intensely occupied with, fond of, in *sitāmīlita*, v, 3. Cf. Schmidt, *s.v.* *mīl* + *ā*, with *caitanyam* (here this or a synonym seems to be understood), 'ganz in Beschlag nehmen.' Cf. Apte, *s.v.* *ā-mīl.*

°*ārdrakapolita*, pple. of denom., 'wet-cheeked,' designation of an elephant in the second stage of *must* (which is called *ārdrakapolikā* in Somadeva's *Yaśastilaka*, see Schmidt), ix, 13.

°*ālānayati*, denom. from *ālāna*, 'posts,' ties up, xi, 6.

āsana, n., withers, place where the elephant's rider sits (cf. Schmidt), ii, 1.

°*āsya* ('face') seems to mean 'elephant's trunk' in xii, 26, 27 (one of the parts by which one mounts or dismounts).

**ikṣura*, an uncertain plant, ix, 21.

°*iṣupuṅkha*, m. or n., probably = °*khā*, the indigo plant (see Schmidt), x, 10.

°*īṣikā*, the ridge above the elephant's eye, or more exactly the under surface of the top of the eye socket, = *akṣikūṭa*, vi, 9. (*BR.* and *pw.*, also Apte, wrongly 'eyeball.')

°*utkṛṣṭa*, m. du., 'elevated parts,' two parts of the hind body of an elephant, vi, 12. Cf. *HA.*, p. 528, ll. 17–18.

°*uttāna-vid*, v, 6; *-vedana*, viii, 20 (here defined); *-vedin* (cf. Schmidt), i, 29; xi, 39, of shallow sensitivity, sensitive to slight stimuli.

°*udagra*, having the head higher (than the withers), see chap. i, footnote 20.

udgāra, 'das vom Elefanten ausgespritzte Wasser' (Schmidt), ii, 9.

°*upakramika*, relating to or suggesting the undertaking or be-

ginning (*upakrama*) of something, xii, 9 (*karmopakramika*).

°*upasarpa,* an elephant in the third year, v, 4.

°*ubhayacara,* ranging in both (mountains and rivers), i, 28. See footnote 20.

°*ūh* + *apa* (recorded only as trans., 'remove'), intrans., 'withdraw, shrink' (subject, the skin of an elephant in the eighth decade), v, 18.

°*kaṭapūrṇa,* 'full in the temples,' designation of an elephant in the first stage of *must* (called in Somadeva's *Yaśastilaka saṁjātatilakā,* 'stage in which eruptions are produced,' see Schmidt), ix, 12.

°*kabala,* a kind of natural fodder fed to elephants, consisting of the branches and leaves of certain trees, xi, 27; in *dvandva*-compound with °*kubala* (or *kuvala*), which is also fodder of the same sort, distinguished from *kabala* apparently only by the particular trees from which it is taken, ix, 1; xi, 32. I rely for this interpretation on a passage in T, pp. 60 f., which reads (somewhat corruptly; I reproduce the exact language of my copy): *paruṣodumbarāśvatthapippalīplakṣabandhanāḥ, śālmalīśākavārāhīmodāmrapanasāpadaḥ, etat kabalam ity uktam ṛṣibhiḥ ku[ñ]jarapriyaiḥ, priyālutālatimiśakapitthānandapādapāḥ, godhūmaṁ kabalaṁ ceti— yad anyad api kiṁ cana, kubalaṁ nāmatas tat tu vātalaṁ kaphapittahṛt.* It appears from this that *kubala* reduces phlegm and gall.

°*karkaśa-vedana,* of harsh sensitivity, viii, 24 (defined).

°*karṇāñcala,* ear lobe, v, 12 (*añcala* = *pāli*).

kalabha, defined in v, 6, as 'an elephant in the fifth year'; in i, 19; viii, 2, referring to a young elephant; elsewhere (xii, 9, and probably ii, 10) used more broadly of 'elephant' in general. Defined *L.* (see *BR.*) as 'young elephant' or 'thirty-year-old elephant.'

°*kalā,* iii, 2, or *kalā-bhāga,* ii, 4, and vi, 11 (where the ed. reads erroneously *kālabhāga*), a fleshy part near the tail of the elephant, a part of the rump or buttocks. Cf. *HA.*, p. 529, ll. 3 f., *jaghanasyādhastāt pārśvayor adhastāt karīṣaprasrāvād adhaḥ kalābhāgau.* Perhaps originally and literally 'viscous part,' cf. the two verses quoted by the editor from the Bhāvaprakāśa, on our ii, 4.—T, pp. 99–100, mentions *kalāhīna* as an unfavorable condition of the rump (*jaghana*).

kaliṅgeśvara, 'lord of Kaliṅga,' quoted as an authority in xi, 10—?

°*kalyāṇa*, an elephant in the fourth decade, v, 14; vi, 6; xi, 26.

[°*kāla-bhāga*, vi, 11, misreading for *kalā-bhāga*, *q.v.*]

°*kuḍuba* = *kuḍava*, a small measure of capacity, one-sixteenth of an *āḍhaka*, xi, 11, 16. This form occurs also *Kauṭ. Arth.*, II, 19, according to Gaṇapati's text; Shama Sastry has *kuḍumba*.

°*kubala*, see *s.v. kabala*.

kumbha, the large boss, globe, or protuberance on either side of the top of an elephant's forehead, vi, 7, and *passim*.

°*kuvala*, see *s.v. kabala*.

°*kerī*, an unknown tree or shrub, x, 12; ix, 21. Perhaps cf. *kerā*, Kauśika Sūtra, 38, 6 (according to Caland, *Cyperus hexastychus communis*).

**kaitaka*, the flower of the *ketaka*, *Pandanus odoratissimus*, viii, 11 (in xii, 18, apparently adjectival, 'of the *ketaka*').

°*koraṇḍa*, a plant, probably = *kuraṇḍa*, *kuraṇṭa*, ix, 22.

kośa, penis (see Schmidt), ii, 2; ix, 5, 9; xi, 44; *kośa-daṇḍa*, 'rod(-like) penis,' ii, 6; ix, 14.

°*krāntatā*, state of being successfully developed or advanced, complete florescence (cf. *BR.*, *s.v. kram*, 8), ix, 6 (read so, or else *kāntatā*, for *gandhatā*, see note *ad loc.*).

°*krodhanī*, 'furious,' n. of the fifth stage of *must*, ix, 16, where read *krodhanīṁ* with v. l. (two MSS out of three) for ed. *krodhadhīḥ*. In Somadeva's *Yaśastilaka* called *krodhinī* (see Schmidt).

°*kṣaya* = *gaja-jānu-bhāga-viśeṣaḥ* (Gaṇapati), v, 15. Cf. *HA.*, III, xxix, page 528, l. 1, *saṁdhayor adhastāt kṣayau*.

kṣetra, 'department,' see iv, 3, 4, and footnotes there.

**kṣaudra*, honey, ix, 21; x, 9.—See Apte, *s.v.* 3.

**gaṇḍūṣa*, m., = *aṅguli*, *q.v.*, vi, 9. Defined *L.* as 'tip of elephant's trunk.'

°*gandhacarā* (*avasthā*), 'scent-going,' n. of the fourth stage of *must* (called in Somadeva's *Yaśastilaka gandhacāriṇī*, see Schmidt), ix, 15.

[°*gandhatā*, fragrance, ix, 6, according to our ed.; but read *krāntatā*, *q.v.* The reading *gandhatā* duplicates *gandha* in the same line, which explains the origin of the corruption.]

°*gambhīra-vedana*, viii, 21 (defined), and *-vedin*, i, 28; xi, 40, sensitive to (only) profound (harsh) stimuli. Misdefined as 'hartnäckig' ('die Tiefen kennend') in *BR.* and *pw.*—Cf. Apte, *gambhīra-vedin*, 'not minding the goad.'

gātra, fore quarters of an elephant, *passim*; see *apara*. Note especially *gātrāntare lohitaḥ*, v, 3, 'reddish between the fore

quarters'; and cf. Somadeva's *Yaśastilaka*, comm., I, 482, lines 6 f. from bottom, *gajasya agradeśo gātram ucyate.*

giricara = *dharaṇidharacara*, see chap. i, footnote 20.

°*gomūtraka* = *gomūtra*, cow's urine, xii, 22.

**gośṛṅga*, *Acacia arabica*, x, 10.

°*cāraṇā*, wielding, application (of the hook), xii, 19, 20. Cf. *ambaracāraṇā*, Schmidt.

**cāṣa*, sugar cane, x, 10. See *s.v. vāyasa.*

°*cikkā*, a part near the middle of the elephant's body, v, 8; vi, 11.

°*cud* + *ā* (pple. *ācodita*, from caus.), drive, ix, 15.

°*cūrṇarāja*, 'king of powders,' xi, 49 (described as 8 parts asafoetida and 27 parts bdellium).

**cūlikā*, root of an elephant's ear, vi, 9.

chāyā, sheen (= *dīpti*), viii, 16 (*q.v.* with my note); cf. *BR.*, *s.v.* 2, *d.*

°*jalūka* = *jalūkā*, leech, iii, 1 (in *jalūka-sadṛśa*, 'leech-like,' probably = 'bloated,' like a leech that has sucked blood). T, p. 98, has, as an unfavorable mark, *jalūkāpṛṣṭhasaṁkāśa.* The next epithet is *hrasva*, 'short.'

°*javana*, 'swift,' an elephant in the third decade, v, 13.

**jvalana*, *Plumbago zeylanica*, or its root, xi, 26.

**tālu-jihva* or *-jihvā*, 'palate-tongue,' uvula, viii, 11.

°*tālusaṁgharṣaṇa*, 'tickling of the palate' (irresistible desire to eat), i, 38. In the parallel passage T, p. 31, *tālugharṣaṇa.*

°*tilaja* = *taila*, sesame oil, xi, 8.

**tilva* = *tilvaka*, *Symplocos racemosa*, ix, 22.

°*tūryaka* = *tūrya*, a musical instrument, x, 11.

[*tṛṣṇālu*, thirsty, v, 20, omitted by mistake in *pw.*, but quoted in *BR.*]

toda, pressure, i, 31 (*pādatodāt*, from the pressure of their feet).

°*danta-chavi*, skin or outer covering of the tusks or teeth, v, 4, 12.

danta-praveṣṭa, sheath of an elephant's tusk, v, 4. Perhaps the premaxillary bone, which grows over the top of the tusk, and in which the tusk fits. See *HA.*, p. 525, bottom, which differentiates *dantaveṣṭau* (*dantayor upari*), from *praveṣṭau* (*tayor upari*, i.e., *dantaveṣṭayor upari*). See *veṣṭa.*

°*dantāruṇa*, 'red as to teeth or tusks,' an elephant in the ninth year, v, 10.

dāna, the fluid that flows from the temporal glands in *must*, ix, 14, 15, 19. Cf. Introduction, p. 36, n. 84.

°*dos* = *kara*, *hasta*, as a measure of length (*ca.* 18 inches), x, 14.

°*dvimūrvā*, 'double hemp,' n. of a plant, presumably some sort of hemp, ix, 20.

°*dharaṇidharacara*, mountain-ranging, i, 27. See chap. i, footnote 20.

**dhārāla*, flowing in streams, ix, 13. (In *BR.* only *L.*; quoted by Schmidt only from Prakrit.)

°*dhūli*, powder (for the toilet), xi, 8.

°*nakha-śīrṣan*, nail tip, v, 8 (cf. *nakha-mukha*, Schmidt).

**nata*, *Tabernaemontana coronaria?*, x, 9, 10.

°*nadīcara* = *sindhucārin*, see chap. i, footnote 20.

**nāga*, some plant, viii, 4 (see *pw.* *s.v.* 1, k, for the various definitions given *L.*; according to Schmidt, *Rottleria tinctoria*, Haravijaya 31, 28, but it can hardly mean that here, since *puṁnāga* = *Rottleria tinctoria* immediately precedes it).

°*nāha*, girth (= *pariṇāha*), i, 27, 29; vi, 2, 3, 4; x, 12.

°*nigalana* = *nigaḍana*, foot fetter, x, 5.

°*nigala-sthāna*, defined vi, 11, as 'the middle of the body,' probably as the 'place of binding,' place around which the girding is put on.

°*nirmuṇḍita*, feeble, powerless? (cf. *nirmuṇḍa*, 'eunuch'), in *nirmuṇḍitākṣa*, xi, 39 (v. l. *nirmaṇḍita*, so T).

niryāṇa, n., outer corner of an elephant's eye, vi, 9; xii, 19 (hook applied here).

**nirvāṇa*, bathing of an elephant, xi, 8.

°*niṣkośa*, m., a part of the elephant's body, apparently behind the middle, v, 5; vi, 12; xii, 25 (stick applied here). Cf. *HA.*, p. 528, l. 22, *kukṣimadhye niṣkosau* (*sic*).

°*niṣṭhyūta* (pple. of *ni-ṣṭhiv*), (figuratively) protruding, bulging (of the eyes, as a sign of bad health or dejection), xi, 4.

°*nīradhara*, cloud (= *jaladhara*), viii, 16.

°*netra-kūṭa*, upper rim of the eye sockets, v, 7 (= *akṣikūṭa*, *q.v.* in *pw.*).

°*naikārika*, elephant in the sixth year, v, 7.

**nyagrodhī*, an uncertain plant, xi, 26.

°*paṭalin*, having a film over the eyes, a cataract (*paṭala*), v, 20.

°*pattrabhaṅga*, 'breakings of leaves,' leaves or leafy branches fed to elephants, ix, 1. Cf. T, p. 61, *sarveṣāṁ* (*sc.*, of a long list of trees just mentioned) *pattrabhaṅgāś ca pallavā iti saṁjñitāḥ.*

°*pada* = *pāda*, quarter, xi, 8.

**padmin*, elephant, i, 31 (where a fantastic etymology is given; it really refers to the white spots, called *padma*, 'lotus,' sometimes found on the heads and other parts of elephants).

**parāga*, m., (medicinal) powder, xi, 28.

°*parimarṣaṇa* (more correctly *parimarśana*, which is also unrecorded), fumbling, feeling around, xi, 46.

°*parvatacārin* (T, p. 137) = *dharaṇidharacara*, see chap. i, footnote 20.

°*pali*, a part of the elephant's face, v, 8; vi, 10. Perhaps the hollow in the middle of the forehead below the *avagraha* and 'above the *avaskāra*' (vi, 10).

°*paścima* = *apara* (*q.v.*), hind quarter of an elephant, ii, 7 (*gātrapaścima*, *dvandva* = *gātrāpara;* see *gātra*).

pākala, elephant fever, xi, 50.

°*picchūṣā*, lobe of an elephant's ear, or his outer ear, v, 4; vi, 10; *picchūṣă-karṇa*, *ibid.*, v, 7. The form *piñjūṣa* (masc.) occurs in *HA.*, p. 527, l. 5.

°*pilāṭa*, see *s.v.* *vilāga.*

°*puccuka*, an elephant in the second year, v, 3.

°*putraṁcārin*, name of some plant, x, 10 ('making sons move'? cf. *putraṁjīva*).

puṣkara, dual, the end of the elephant's trunk, i.e., its double opening, ii, 2; iii, 1; v, 8; vi, 9 (the *gaṇḍūṣa*, *q.v.*, is above the *p.*).

°*pūla*, a kind of pastry (= *pūlī*, *pūlikā*, *q.v.* in Schmidt), xi, 8.

pecaka, the part around the root of the elephant's tail, iii, 2; vi, 1, 13 (here defined).

°*paittika*, afflicted with disease of the gall (humor), xi, 39.

°*pota* ('colt'), an elephant in the second decade, v, 12.—'An elephant ten years old,' Apte.

°*potāyita*, pple. of denom. from *pota* ('boat'? or 'colt'?), applied to an elephant's roar produced with the lips and (or) soft palate, ii, 13.

°*praṇidhi*, m., direction, method of driving an elephant, xii, 6, 7, 8. The definition quoted in Schmidt, *aṅkuśaprayoga*, is too narrow; there are three kinds of *praṇidhi:* by speech, feet, and hook, xii, 8.

°*pratikarṣaṇa*, n., pulling back, xii, 21.

pratimāna, n., a part of the elephant's face, v, 7; vi, 8 ('below the *vāhittha*'). Said in the lexicons, and in *HA.*, p. 526, l. 4, to be 'between the tusks.'

°*pratilomayate*, denom. from *pratiloma*, to respond in a contrary or refractory way (with accus.), viii, 23, 24.

°*pratyakpuṣpā, Achyranthes aspera*, xi, 26. See *BR.*, *s.v. pratyakpuṣpī*, which is the only form heretofore recorded, though -*puṣpā* is required by Pāṇ. 4, 1, 64, Vārtt. 1, Sch.—T reads *pratyakparṇī*, which is recorded lexically in the same sense.

°*pratyartha-vedana*, viii, 23 (defined), or -*vedin*, xi, 38, of contrary sensitivity.

°*praharṣin*, subject to erections (*praharṣa*) of the penis, v, 9. Cf. *prahṛṣṭameḍhra*, v, 11.

°*prahīṇa*, m. or n., wasted condition (so Wilson), xi, 39.

°*proha*, a part of the elephant's body, v, 5, 8, 12; vi, 10. Defined vi, 10, as 'between the shoulders,' whereas the *L.* definition, quoted *BR.*, would make it a part of the foot; with this cf. *talaprohau*, parts of the feet, *HA.*, p. 528, l. 10.

°*phaṇirjaka*, a kind of basil (*tulasībhedaḥ*, Gaṇapati), viii, 8. Cf. *phaṇijjha(ka)*, marjoram; *phaṇijjhakā*, according to Wilson 'a kind of basil.'

°*phalāphala*, good and bad 'fruits' or results, xi, 42.

°*phenāyita*, pple. of denom. from *phena*, 'befoamed,' applied to an elephant's roar produced in the back of the mouth, ii, 13.

°*barbara*, an elephant in the fourth year, v, 5.

bāla, 'infant,' an elephant in the first year, v, 2. According to *L.*, quoted *BR.*, and Apte, a five-year-old elephant.

**bilāla* = *biḍāla*, cat, viii, 6.

°*bilvaka* = *bilva*, *Aegle marmelos*, x, 9.

bhadra, 'fair,' 'state,' name of the first 'caste' of elephants, i, 26, 27 (here defined); iv, 6; vi, 3 (measurements); xii, 7.

**makuṣṭa*, a kind of pulse, *Phaseolus aconitifolius*, xi, 36.

°*majjana*, an elephant in the eighth year, v, 9.

°*maṇḍūkodara*, 'frog-bellied' (with protruding, puffy belly), a bad physical trait, iii, 1.

°*mad* + *pra*, to be in the state of *must*, ix, 9.

mada, *must*, ix *passim*; *must*-fluid (flows from various parts of the body), ix, 5, 9, 14. See Introduction, sec. 7.

manda, 'slow,' name of the second 'caste' of elephants, i, 26, 28 (here defined), iv, 6; vi, 3 (measurements); xii, 7.

°*mayūrīśikhā*, (probably) *Celosia cristata* (cf. *mayūraśikhā*), x, 10.

°*mastaka*, (apparently) the top surface of the *kumbha*, *q.v.*, ii, 1; iv, 1; xii, 19. Cf. *HA.*, p. 526, third line from bottom (the *mastakas* are on either side of the *vidu*, cf. our vi, 7).

°*māleya*, some plant or vegetable product, x, 8, 10 (here *māleyā* might be the reading); cf. *māleyā*, *L.*, kind of carda-

mṛga, 'deer,' n. of the third 'caste' of elephants, i, 26, 29 (defined); iv, 6; vi, 2, 3 (measurements); xii, 7.

°*mṛṣṭi*, rubbing down, in *dhūli-m.*, xi, 8 (part of the care of an elephant).

yata, n., guidance of an elephant with the feet, v, 6; *yata-yāta* (see this), viii, 22.

yāta, guidance of an elephant with the goad, viii, 22 (see *s.v. yata*).

**yuga*, some drug or medicinal plant (= *vṛddhi*, *L.*), xi, 12.

yugalī, pair (see Schmidt), i, 19.

°*yaudha*, m., 'martial,' an elephant in the fifth decade, v, 15. In T (p. 158 and *passim*) *yodha*.

rasa, broth made of animals' flesh, meat soup; so clearly in xi, 35, *jāñgala-rasa*, jungle-deer broth, cf. *HA.*, IV, xv, 87; also xi, 36 (cf. *HA.*, IV, xv, 99), and probably xi, 7, 32. In xi, 37, *rasa*, in this sense, is to be understood with *prasabhaja-lacarānūpajo;* this is proved by the closely parallel passage *HA.*, IV, xv, 29, 30. Cf. Apte, *s.v.* 25.

**rāmaṭha*, said (*L.*) to be asafoetida or *Alangium hexapetalum*, xi, 26.

°*rekhāvant*, epithet of the best type of elephant driver (*yantṛ*), apparently 'coming up to the scratch,' 'giving full satisfaction' (cf. *rekhā* = *ābhoga*, *s.v.* 2 *d*, in *BR.*), xii, 3.

°*roma*, said to mean 'lotus' (*padma*), but only in etymologizing on the name Romapāda, xii, 29.

°*roma-nilaya*, 'hair-abode,' skin (= *roma-bhūmi*), iv, 2.

°*rohin*, growing over, healing (of a wound), v, 9.

laṇḍa, seems to be used particularly of the 'dung' of elephants, v, 21; cf. *Kauṭ. Arth.*, II, ii.

°*loha-reṇu* = *loha-rajas*, iron filings? xi, 26.—T reads *loha-daṇḍa.*

°*varṣa-gharṣin* (?), v, 9, if the text is right can hardly mean anything but 'delighting in rain' (*ghṛṣ* = *hṛṣ*, *L.*, cf. *ghṛṣu*, *ghṛṣvi*, RV.). But I suspect that *-dharṣin* is to be read, and that the cpd. means something like 'not yet sexually potent'; cf. the next two verses on the gradual beginnings of virility in elephants. *varṣa* then = semen; for *dharṣin* cf. *dharṣa*, said to mean 'eunuch,' and *varṣa-dhara*, *-dharṣa*, *ibid.* The next word is *praharṣin*, *q.v.*—In T occurs the variant *veṣṭa-gharṣi* (so, for °*ṣī*), which would seem to mean 'rubbing the (tusk) sockets.'

°*vaśā-lobha*, m., x, 7, and *-vilobhana*, x, 1 (cf. also *vaśā-lo-*

bhana, x, 7), enticement or seduction by females, a method of catching elephants.

°*vaśya,* seductive, causing seduction, bringing into subjection (with gen.), x, 9, 10 (*vaśyāñjana,* a subjugating ointment); xii, 23 (*gaja-v.,* subjugating an elephant).

**vājigandhā, Physalis flexuosa* (so *L.*), xi, 31.

**vātika,* suffering from disease of the wind (humor), xi, 38.

**vāyasa,* fragrant aloe (?), x, 10. I take this and the following *cāṣa* (*q.v.*), *pattra* (some plant with fragrant leaves), and *nakha* (*Unguis odoratus*), all as names of plants; the context makes it improbable that we should understand 'feathers and claws of crows and blue jays' or 'feathers of crows and blue jays and *Unguis odoratus.*'

°*vāyukumbha,* a part of the elephant's face, vi, 8 (in the middle of the *pratimāna*). Cf. *vātakumbha, L.,* said to be 'below the *kumbhas*' (*BR.*). Perhaps the small but very prominent globes or bosses just above the elephant's eyes; but this would hardly fit the position alleged in reference to the *pratimāna.*

°*vārī-karman,* operation with a trap pen, a method of catching elephants, x, 1.

**vāhittha,* a part of the elephant's face, vi, 7, 8. It is below the *kumbhas,* and above the *pratimāna,* cf. *HA.,* p. 526, lines 5, 21, and the Vaijayantī as quoted by Gaṇapati on our v, 5; it is described as 'in the middle of the face.'

vikka, an elephant in the tenth year, v, 11; said (*L.*) to be an elephant calf, or a twenty-year-old elephant. Occurs *Kauṭ. Arth.,* Sh.,[1] p. 136, line 9 from bottom, evidently in the sense of a young elephant. Apte: 'a young elephant.'

°*vitāna,* a dual part of the elephant's head, xii, 19 (one of the parts to which the hook is applied). Literally 'canopy.' Apparently the edge of the *mastaka,* judging from *HA.,* p. 526, third line from bottom, *mastakayor bahiḥpārśvayor vitāne.*

vidu, the furrow in the middle of the top of an elephant's head, between the two *kumbhas,* v, 4; vi, 7 (defined), xii, 19 (hook applied to it).

vilañga = *viḍañga,* fruit of *Embelia ribes,* a vermifuge, xi, 12, 17; xii, 23. (See Schmidt.)

°*vilāga,* a part of the elephant's face, defined as at the sides of the *vāhittha,* v, 5, 7; vi, 8. Cf. *HA.,* p. 526, l. 5. The term *pilāṭa* is used instead of this in the Vaijayantī as quoted by Gaṇapati on our v, 5.

°*vilobhana*, adj., fem. °*nī*, seductive, x, 8.

**vṛścīra*, a plant, genus *Boerhavia*, ix, 21. Otherwise *vṛścīva*, which *pw.* conjectures should be read for *vṛścīra;* but our text confirms the variant °*ra.*

vedana, n., sensitivity (to stimuli of the driver) in an elephant, viii, 18–25. It is of seven kinds: *atyartha, uttāna, gambhīra, anvartha, pratyartha, karkaśa*, and *siddha.*

veṣṭa, sockets (of tusks; cf. *danta-praveṣṭa*), v, 16; xi, 21.

vyāla (*-hastin*), rogue-elephant, iii, 6; xii, 5.

śatadhauta, 'hundred-fold purified,' a technical name for ghee prepared by a special process, xi, 6, 34 (*sarpiṣā śatadhautākhyena*).

°*śāribā* = *sārivā*, n. of two creeping plants, x, 10.

śilā, vein (? = *sirā*), xii, 24. Cf. *BR.*, *s.v.* 2 *śilā.*—Or is *śiraḥśilā* here = *śiro'sthi*, 'skull'?

°*śiśu*, 'colt,' an elephant in the seventh year, v, 8.

°*śailacāra* (T, p. 137) = *dharaṇidharacara*, see chap. i, footnote 20.

°*ślaiṣmika*, suffering from disease of the phlegm, xi, 40.

saṁyatākṣa = *saṁyatendriya*, 'with controlled senses' (see *akṣa*), xii, 1. In same meaning Bhāg. Pur., IX, ii, 12 (absurdly rendered in Monier-Williams 'having the eyes closed'!).

°*saṁvihāra*, sporting together, ix, 2.

saṁkīrṇa, 'mixed,' name of the fourth 'caste' of elephants, i, 26, 30 (defined).

°*saṁgharṣaṇa*, excitement, in *tālu-saṁ*°, 'tickling of the palate,' itch to feed, i, 38.

**saṁdāna*, n., 'bond, binding-place,' a part of the elephant's body, v, 5, 8, 14, 15; vi, 11. In vi, 11, said to be 'above the rump, *jaghana.*' But this is hard to reconcile with the statements of *HA.*, p. 528, l. 4, and p. 529, l. 5, which indicate that *saṁdānabhāga* is a lower part of the fore or hind leg; this is supported by the definition (*L.*) in *BR.*, 'a part of the elephant's body below the knee.' Wilson's and Apte's statement that it is 'the part of the elephant's temple from which the *must*-fluid flows' may be based on a misunderstanding of a passage such as our v, 15, which indicates that the *must*-fluid flows from the *saṁdāna* among other places. See my Introduction, p. 34.

°*samagra*, having the head even (with the withers), see chap. i, footnote 20.

°*sampracāra*, moving, grazing, ix, 3 (read *svecchayāsampracāro* as cpd.).
°*sampluti*, jumping up (on an elephant from behind), xii, 26.
°*sammohana*, n., wandering astray, bewildered straying, exile, i, 35.
sāṁnāhya, a military elephant, viii, 17. So also *Kauṭ. Arth.*, Sham.,[1] p. 96, l. 4. But for this parallel, and the use of the word as an adj. elsewhere (see Schmidt), we might interpret *sāṁnāhye* in viii, 17, as an abstract, 'military service.'
°*siddha-vedana*, of perfect sensitivity, viii, 25 (defined).
°*sindhucārin*, river-ranging, i, 29. See chap. i, note 20.
°*suvarṇa*, (apparently) water, viii, 16 (see my note *ad loc.*).
°*suvahā*, an unknown plant (cf. *suvaha*, n. of various plants), x, 10.
°*suhara*, taking hold (or carrying off) well, xi, 40.
**sthāpanī*, *Clypea hernandifolia*, xi, 26.
sthūlākṣa, either 'large-eyed' or 'nearsighted,' i, 29; see chap. i, note 20. Synonym, *sthūlekṣaṇa* (*SY.*, I, p. 493, l. 6).
hrāsana, 'diminution,' n. of the seventh and last stage of *must*, ix, 18. Called in Somadeva's *Yaśastilaka* (see Schmidt) *sambhinnamadamaryādā*, 'having penetrated the utmost bounds of *must*.'

EMENDATIONS OF THE TEXT

V. 10b, for *pratata* read *patita;* see note 47.
V. 18a, for *kaṭa* read *kara;* see note 55.
VI. 3b, read *aṣṭau ca hastāḥ pariṇāhamānam;* see note 62.
c, for *etadvi°* read *ekadvi°;* see note 62.
VI. 11d, for *kāla* read *kalā;* see Glossary *s.v.*
VIII. 21b, read *°vyadhanād;* see note 77.
VIII. 23b, read *nigṛhītaś ca gacchati;* see note 79.
IX. 6b, read *ratir dehasya krāntatā* (? *kāntatā*); see note 84.
IX. 14d, read *'dhonibandhāt* for *yo ni°*; see note 91.
IX. 15c, d, read *hanti rathāśvasaṅghān āsādito;* see note 92.
IX. 16, read *na śayyām* for *nagaryām* in a, and *krodhanīṁ* with v. l. in d; see note 93.
XI. 22a, read *janayati* for *jayati ca;* see note 109.

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